ECONOMIC HISTORY OF THE DECCAN

Dedicted to

D. C. SIRCAR

ECONOMIC HISTORY OF THE DECCAN

FROM THE FIRST TO THE SIXTH CENTURY A.D.

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Foreword

The economic history of any civilised country is a fascinating and important subject of study, and it is a matter of satisfaction that the economic life of the Indians of old has attracted the serious attention of scholars. To some books, of a general type, on the economic condition of ancient India, a number of works on the economic life of the early Indian people of particular ages and areas, more or less of a comprehensive nature, have been added recently. Dr. D.R. Das's *Economic History of the Deccan* (from the first to the sixth century A.D.) is a valuable addition to the latter class of historical literature.

The subject of the work was not altogether untouched by earlier historians ; but credit has to be given to our young author for dealing with it in an exhaustive, thorough and critical way.

It is well known that the Indians of the early period did not leave for posterity any written account of their activities in the various fields of history, so that the political and cultural aspects of ancient Indian history are still in the process of reconstruction with the help of bits of information scattered over a wide field. Such information has to be collected with great care, cleverness and diligence and to be utilised, in giving shape to a picture, with considerable intelligence and critical acumen. Unfortunately, the nature of the information being generally vague, the treatment of the topics sometimes becomes purely subjective and even incomplete, inefficient and wrong. We are glad to note that Dr. Das has exhibited industry in the collection of data and critical acumen in the evaluation of the evidence and has, consequently, succeeded in producing a sound work which will doubtless benefit the readers. It is also a satisfacation to us that his discussions are not influenced by 'the socialistic bias' introduced into the socio-economic history of ancient and medieval India by certain recent writers. Indeed, a historian should be as free from such influences as possible, because—

Ślāghyaḥ sa eva guṇavān rāga - dveṣa - bahiṣkṛtaḥ |
bhūt-ārtha-kathane yasya stheyasy = eva sarasvatī ||

(That man of merit alone deserves praise, whose language, like that of a judge, in recounting the events of the past, has discarded bias as well as prejudice.)

even though pure objectivity is an impossibility, because—

ko = 'nyaḥ kāla-pratikrāntaṁ netuṁ pratyakṣatāṁ kṣamaḥ |
kavi-prajāpatīṁs = tyaktvā ramya-nirmāṇa-śālinaḥ ||
na paśyet sarva-saṁvedyān bhāvān pratibhayā yadi |
tad = anyad = divya-dṛṣṭitve kim = iva jñāpakaṁ kaveḥ ||

(Who else is capable of making vivid, before one's eyes, pictures of a bygone age, barring poets resembling the Creator, who create naturally beautiful productions ? Were he not to have the awareness, through intuition, of existences which he is about to reveal to everyone, what other indication would there be of the divine perception of the poet ?)

Let us hope that Dr. Das will produce similar other works in quick succession.

University of Calcutta D.C. SIRCAR
the 25th October, 1968.

Preface

Ever since R. G. Bhandarkar published his monumental work on the *Early history of the Deccan* the region with which the present work is concerned has attracted many scholars whose untiring efforts have helped in removing to a great extent the veil of mystery that covers the earlier periods of its history. Most of the works have, however, been done in the sphere of political history, and consequently cultural history remains more or less neglected. Even the recently published *Early History of the Deccan* (ed. G. Yazdani, London, 1960) attaches more importance to political upheavals than to cultural activities except in the field of art and coinage. In the present work, I have made an attempt to study the socio-economic aspect of the early history of the Deccan. With a view to bringing out its main characteristics, special emphasis has been laid in Chapter I on physical features and climatic conditions since their contribution towards moulding human behaviour and activities is considerable. In the second chapter, land tenure and other allied problems have been discussed. In the same context altempt has been made to find out the motive that encouraged the creation of rent-free holdings. Attempt has also been made to ascertain the areas of different land measures mentioned in the epigraphs. In the following chapter which deals with the revenue system, the extent of royal prerogatives has been thoroughly examined. Since agriculture was and still continues to be the main industry of the country, much stress has been given on the different agricultural products in Chapter IV. It is a law of Nature that good harvest depends largely on favourable rainfall and its failure affects adversely the country's agricultural activities. Several such instances have been cited in the fifth chapter which also deals with the sufferings of the people due to famine. In order to avoid dependence on Nature, arrangements for irrigation were made from early times. Available evidence has been explored to illustrate the said aspect of human endeavour. The succeeding chapter deals with forests as a source of national wealth. In the next chapter, a brief account of town-planning has been attempted on the basis of excavation reports, representations on sculptures and paintings and literary evidences. It is accompanied by a description of important towns and cities. In Chapter VIII some sides of social life have been described. A separate chapter (Chapter IX) has been devoted to a discussion on the mineral wealth of the Deccan plateau. In Chapter X the crafts and industries of the region have been dealt with. It is followed by a discussion on professions and occupations (Chapter XI). Sometimes people pursuing different vocations were organised in guilds, and inscriptions reveal the existence of a large number of them (see Chapter XII). In Chapter XIII, trade and commerce have exhaustively been treated with special stress on trade-routes, sea-borne trade, articles of export and import etc. like This is followed by a discussion on banking and allied business money-lending, etc. (Chapter XIV). The last chapter (Chapter XV) takes into account the different types of currency hatt were in circulation. In doing so, I have tried to ascertain the exchange ratio of gold, silver and copper.

I feel pleasure to record here the much valued advice, co-operation and encouragement I have received from several quarters in the preparation of this work. No word of gratitude can express my indebtedness to Dr. D. C. Sircar, Carmichael Professor of Ancient Indian History and Culture, Calcutta University, who very kindly agreed to supervise the work. If the work has any merit it all goes to him while the shortcomings are definitely due to his pupil's inability to follow his teacher's instructions properly. I feel further obliged for the foreword which he has written for this book. I am also deeply indebted to Dr. Narendra Nath Bhattacharya for his ever-flowing encouragement that made me steer clear of all difficulties. Sincere thanks are due to Sri Mrityunjay Sinha, M.A., who has prepared the index. I am also thankful to the members of the staff of the Asiatic Society, Calcutta, for their constant co-operation. The inspiration which I received in pursuing my study from my mother, sisters and brothers cannot be measured in words Lastly, Sri Devendra Jain, Publications Executive of Messrs.

Munshiram Manoharlal, must be specially thanked for taking keen interest in seeing the book through the press.

Calcutta.
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Dipakranjan Das

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Abbreviations

ABORI.	*Annals of the Bhandarkar Oriental Research Institute*, Poona.
AICL.	*Ancient India as described in Classical Literature*. Translated and annotated by J.W. McCrindle. Westminster, 1901.
AL.	*Indian Art and Letters*, London.
Amara.	*Amarakosha*.
Anct. Ind.	*Ancient India*.
Ann. Rep. on S. I. Ep.	*Annual Report on South Indian Epigraphy*.
Āpas.	*Āpastamba Dharmasūtra*.
ARHAD.	*Annual Report of the Hyderabad Archaeological Department*.
AS.	*Kauṭilīya Arthaśāstra*.
ASIR/ASI,AR/ASR	*Annual Report of the Archaeological Survey of India*.
As. Res.	*Asiatic Researches*.
ASWI.	*Archaeological Survey of Western India*.
BDCRI/Bull. Dec. Coll. Res. Inst.	*Bulletin of the Deccan College Postgraduate and Research Institute*, Poona.
BEFEO.	*Bulletin de l'Ecole Francaise d'Extreme Orient*, Hanoi.
BG/Bomb. Gaz.	*Bombay Gazetteer*.
Bhandarkar's List	"A list of Inscriptions of Northern India written in Brāhmī and its Derivative Scripts from about A.C. 200" by D.R. Bhandarkar, Appendix to *EI*, Vols. XIX-XXIII.
BISMQ.	*Quarterly Journal of the Bharat Itihas Samsodhak Mandal*, Poona.

Bṛ./Bṛih.	*Bṛihaspatismṛiti.*
Brahma.	*Brahma Purāṇa.*
Bull. Mad. Govt. Mus.	*Bulletin of the Madras Government Museum.*
Bull. Pr. Wales Mus.	*Bulletin of the Prince of Wales Museum*, Bombay.
CCGD.	John Allan, *Catalogue of the Coins of the Gupta Dynasties and of Śaśāṅka, king of Gauḍa* (in the British Museum), London, 1914.
CCIM.	*Catalogue of the Coins in the Indian Museum*, Calcutta.
CHI.	*Cambridge History of India.*
CII.	*Cropus Inscriptionum Indicarum.*
Coll.	*Colloquios dos simples e drogas e cousas medicinaes da India e assi de algumas fructas achadas nella (varias cultivadas hoje ne Brazil) Compostos pelo doutor Gracia de Orta, 2nd ed. féita, proximamente pagina por pagina, pela primeira impressa em Goa por Joãe de Endem no anno de 1563. Lisboa, No Imprensa nacional 1872.*
Daśa.	*Daśakumāracharita.*
Dīgha.	*Dīghanikāya.*
Diod.	*Diodorus.*
Divya.	*Divyāvadāna.*
EA.	*Eastern Art.*
EC.	*Epigraphia Carnatica.*
EHD.	G. Yazdani (ed.), *Early History of the Deccan*, London, Bombay, New York, 1960.
EHNI.	P. Niyogi, *Economic History of Northern India*, Calcutta, 1962.
EI.	*Epigraphia Indica.*
FNSI.	K.A. Nilakanta Sastri (ed.), *Foreign Notices of South India*, Madras, 1939.
Frag.	*Fragments of the Persica and of the Indica* by Ctesias (Eng. trans. in McCrindle's *Ancient India as described by Ktesias*

	the Knidian, Calcutta, etc., 1882).
Gāthā/GS.	*Gāthāsaptaśatī.*
Gaut.	*Gautama Dharmaśāstra.*
GOS.	*Gaekwad's Oriental Series*, Baroda.
Hist.	*History* of Herodotus (Eng. trans. by G. Rawlinson, London, 1860).
HC.	*Harshacharita.*
HOS.	*Harvard Oriental Series.*
HRS.	U.N. Ghoshal, *Contributions to the History of the Hindu Revenue System*, Calcutta, 1929.
IA.	*Indian Antiquary*, Bombay.
IC.	*Indian Culture*, Calcutta.
IHQ.	*Indian Historical Quarterly*, Calcutta.
Ind. Alt.	C. Lassen, *Indische Alterthumskunde*, Leipzig, 1867.
Ind. Arch.—A Rev.	*Indian Archaeology,— A Review.*
Ind. Ep.	D.C. Sircar, *Indian Epigraphy*, Delhi, 1960.
Ind. Ep. Gloss/Ep. Gloss.	D.C. Sircar, *Indian Epigraphical Glossary*, Delhi, 1966.
Imp. Gaz.	*Imperial Gazetteer.*
JA	*Journal Asiatique*, Paris.
Jahrb.	*Jahrbuch des deutschen archaeologischen Instituts.*
JAHRS.	*Journal of the Andhra Historical Research Society*, Rajahmundry.
JAS.	*Journal of the Asiatic Society, Letters*, Calcutta.
JASB.	*Journal of the Asiatic Society of Bengal*, Calcutta.
Jāt.	*Jātaka.*
JBBRAS.	*Journal of the Bombay Branch of the Royal Asiatic Society*, Bombay.
JBRS.	*Journal of the Bihar Research Society*, Patna.
JBORS.	*Journal of the Bihar and Orissa Research Society*, Patna.
JBU/Bomb. Univ. Jour.	*Journal of the Bombay University*, Bombay.

JGIS.	*Journal of the Greater India Society*, Calcutta.
JIH.	*Journal of Indian History*.
JISOA.	*Journal of the Indian Society of Oriental Art*, Calcutta.
JNSI.	*Journal of the Numismatic Society of India*, Bombay.
JNU/Jour.Nag.Univ.	*Journal of the Nagpur University*, Nagpur.
JOI.	*Journal of the Oriental Institute*, Baroda.
JOR.	*Journal of Oriental Research*, Madras.
Journ. of Eg. Arch.	*Journal of Egyptian Archaeology*.
JRAS.	*Journal of the Royal Asiatic Society of Great Britain and Ireland*, London.
JRASB.	*Journal of the Royal Asiatic Society of Bengal*, Calcutta.
JUPHS.	*Journal of the U. P. Historical Society*.
Kāt.	*Kātyāyanasmṛiti*.
KS.	*Kāmasūtra*.
Lüders' List.	"A List of Brahmi Inscriptions from the earliest times to about A.D. 400 with the exception of those of Aśoka," by H. Lüders, Appendix to *EI*, Vol. X.
Mālavikā.	*Mālavikāgnimitram*.
Mārk.	*Mārkaṇḍeya Purāṇa*.
MASI.	*Memoirs of the Archaeological Survey of India*.
Mbh.	*Mahābhārata*.
MRE.	*Minor Rock Edict*.
Mys Arch.Surv., A.R.	*Annual Report of the Mysore Archaeological Survey*.
Nār.	*Nāradasmṛiti*.
Nat. Hist.	*Naturalis Historia* of Pliny (Loeb Library Ed.).
New Acc. of E. Ind. and Pers.	John Fryer, *A New Account of East India and Persia*, London, 1698.
PAIOC/PIOC/POC.	*Proceedings of the All-India Oriental Conference*.
P.D.	*Peshwa Daftar*.
PE.	Pillar Edict.
Periplus.	*Periplus of the Erythraean Sea*. Translated

	and annotated by W.H. Schoff. London, 1912.
PHAI.	H.C. Raychaudhuri, *Political History of Ancient India*, 6th ed. Calcutta.
PIHC.	*Proceedings of the Indian History Congress.*
Proc. ASB.	*Proceedings of the Asiatic Society of Bengal*, Calcutta.
Pro. Roy. Ir. Acad.	*Proceedings of the Royal Irish Academy.*
QJMS.	*Quarterly Journal of the Mythic Society*, Bangalore.
RBIF.	R.E.M. Wheeler, *Rome beyond the Imperial Frontier*, London, 1954.
RE.	Rock Edict.
Raghu.	*Raghuvaṁśa.*
Rāj./RT.	*Rājataraṅginī.*
SBE.	*Sacred Books of the East*, Oxford.
SBH.	*Sacred Books of the Hindus*, Allahabad.
Select. Ins.	D.C. Sircar, *Select Inscriptions bearing on Indian History and Civilisation*, Vol. I, Calcutta, 1942.
SII.	*South Indian Inscriptions.*
SIS.	*Sino-Indian Studies*, Calcutta.
SRENI	A.N. Bose, *Social and Rural Economy of Northern India*, 2 Vols, Calcutta.
Str./Strabo.	*Geographica* by Strabo (trans. H.L. Jones, London, 1932).
Suc. Sāt.	D.C. Sircar, *Successors of the Sātavāhanas in the Lower Deccan*, Calcutta, 1939.
Trans. ASB.	*Transactions of the Asiatic Society of Bengal*, Calcutta.
Travels.	*Tavernier's Travels in India*, Vangabasi Edition. Calcutta, 1905.
Uttara.	*Uttaracharita.*
Vaś.	*Vaśishṭha Dharmasūtra.*
Vikrama.	*Vikramorvaśīyam.*
Yāj./Yājña.	*Yājñavalkyasmṛiti.*
ZDMG	*Zeithschrift der Deutschesm Morgenländischen Gesellschaft.*

1

Geographical Background

THE name *Deccan*, *Dekkan* or *Dekhan* apparently derives from Skt. *Dakshiṇa*, meaning 'right hand' or 'the south'. In the latter sense, it was known to Fa-hien,[1] who says that there was a country in the South called Ta-Thsin, *i.e.* Dakshina. The author of the *Periplus*[2] refers to a portion of Peninsular India as Dachinabades (=Pkt. Dakkhināvadha=Skt. Dakshiṇāpatha) because "*dachanos* (*dakshiṇa*) in the language of the natives means 'south'."

As to the exact limit of the country called the Deccan or Dakshiṇa, the evidences at our disposal give divergent pieces of information making it correspond sometimes to the whole of Peninsular India and sometimes to a part thereof. In Bharata's *Nāṭyaśāstra*,[3] it comprises the whole of India lying between the southern sea and the Vindhyas. The *Bhuvanakosha* section of the Purāṇas[4] and the *Kāvyamīmāṁsā*[5] by Rājaśekhara, by way of referring to the countries and *janapadas* lying in the south, imply the same region as Dakshiṇāpatha. The *Petavatthu* commentary[6] includes the *Damiḷa-vishaya* or Tamil Country within Dakshiṇāpatha. It appears from the Allahabad Pillar inscription[7] that, in the 4th century A.D., the region as far as Kāñchī in the south, if not beyond it, was included within

[1] S. Beal. *Buddhist Records of the Western World*, p. lxviii.

[2] Sec. 50.

[3] XIV. 39.

[4] Sircar, *Studies in the Geography of Ancient and Medieval India*, pp. 29ff.

[5] Ch. 17 ; GOS. ed., pp. 93f.

[6] Malalasekera, *Dictionary of Pali Proper Names*, Vol. I, p. 1051 ; Raychaudhuri in *EHD*, p. 3.

[7] *Select Ins.*, pp. 254ff.

Dakshiṇāpatha. The conception of cis-Vindhyan India bounded by the three seas as a separate *Chakravarti-kshetra*[1] also suggests that, to its rulers, the Indian Peninsula, as distinct from Āryāvarta, was a single geographical unit. Indeed, in the inscriptions[2] of the Eastern Chālukya kings, Dakshiṇāpatha has been mentioned as the land between the Narmadā and the Adam's Bridge.

Besides implying the whole Peninsula, the term *Deccan* or *Dakshiṇa* seems to have been used in a restricted sense also. The *Periplus*[3] excludes from the geographical limit of Dachinabades the region which was known as Damirica, *i.e.*, the Tamil country. In the 10th chapter of the *Lalitavistara*[4] Dakshiṇa is distinguished from Drāviḍa. In the *Rāmāyaṇa*[5] also a distinction is drawn between the Drāviḍa and Dakshiṇāpatha *janapadas*. In the Karṇaparvan[6] of the *Mahābhārata*, the Dākshiṇātya people are differentiated from the Drāviḍas, Tuṇḍikeras, Nishadhas, Pulindas, Kuṇḍalas, Mekalas, Daśārṇas and Kaliṅgas , who are described in the Purāṇas as inhabitants of Dakshiṇāpatha. In the Sabhāparvan[7] of the same epic, the Pāṇḍya territory in the extreme south has been excluded from Dakshiṇāpatha. Kishkindhā seems at that time to have been on the outskirts of Dakshiṇāpatha. In the medieval period, the Deccan was sometimes understood in a very limited sense. This is apparent from the following description of the *Ṭabaqat-i-Akbarī*[8] : 'The flower of the Sultan's (Alā-ud-dīn's) army had, however, marched to the extreme south of the Dakin, to conquer Arangal.'

It follows from what has been said above that the Deccan or Dakshiṇa was sometimes understood to mean a region 'in which Malabar and the Tamil countries of the extreme south are not included'. As observed by Smith,[1] "Southern India, as distinguished from the plateau of the Deccan, from which it is separated by the Kṛishṇā (Kistna) and Tuṅgabhadra rivers, has a character of its own, and a history generally independent of that of the rest of India. This extensive region may be described in modern terms as consisting of the Madras Presidency, excluding the 'Northern Circars' Districts of Vizagapatam and Ganjam, and with the addition of the native states of Mysore, Cochin, and Travancore.[2] It is essentially the land of the Tamil race and speech, and accordingly the greater portion of it was known in ancient times as Tamilakam, or the the Tamil country. The earliest tradition fixed the northern boundary of Tamilakam on the east coast at Pulicat, a little above Madras, and on the west coast at the White Rock near Badagara, to the south of Mahe, the frontier line between those two points passing round the hill of Venkata or Tirupathi, 100 miles to the north-west of Madras and then inclining southwards to Badagara. Later traditions extended the north-eastern boundary as far as Nellore on the North Pennar and the north-western limit to the Chandragiri river south of Mangalore." In this restricted sense, the Deccan has been taken in the present work which confines itself to the region lying roughly to the north of 13°59′ north lattitude.

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[1] Sircar, *op. cit.*, pp. 14f.

[2] *SII*, Vol. I, p. 58 ; *IA*, Vol. VII, p. 245 ; *EI*, Vol. IV, p. 305 ; also Venkataramanayya, *The Eastern Calukyas of Vengi*, p. 7.

[3] Sec. 53.

[4] Trans. R. L. Mitra, p. 143.

[5] II, 10, 37.

[6] Cf. ch. 5, 21, 23. The restricted meaning of the term 'Dakshiṇātya' is also known to Bharata who in his *Nāṭyaśāstra* (XXIII, 102) distinguishes it from Andhra, Pulinda and Dramila (see Raychaudhuri in *EHD*, p. 4n.).

[7] Ch 10 : cf. also Karṇa, ch. 21.

[8] Eng. trans., Vol. I, p. 173 ; *EI*, Vol. XXXII, p. 243n.

With regard to the northern limit it may be said that Sanskrit literature takes as the dividing line between Dakshiṇāpatha and Āryāvarta or Uttarāpatha sometimes the Vindhya mountains[3] and sometimes the river Narmadā, which following closely along the south of the Vindhya range empties itself into the Gulf of Cambay near Broach in Gujarat. The *Matsya Purāṇa*[1] carried the northern limit to the Kārusha country[2] which occupied the hill country enclosing the Kaimur spur of the eastern Vindhyas while the Pali Jātakas stretch it to Avanti[3] close to the western Vindhyas. It appears from a passage in the *Mahābhārata*[4] that the northern limit of Dakshiṇāpatha was extended to the Nishadha country, generally associated with the Pāriyātra mountain.[5] In the *Mārkaṇḍeya Purāṇa*[6] mention is made of a Dakshiṇāpatha tribe called the Vindhyamauleyas. No particular people of the name are known; but the name clearly indicates the 'people who lived at the foot of the Vindhyas'. The author of the *Periplus*[7] includes within Dachinabades all the territory from Barygaza, *i.e.*, Broach on the Narmadā, to Naura and Tyndis. The commentator of the *Kāmasūtra* informs us that Dakshiṇāpatha is the country to the south of the Narmadā.[8] Rājaśekhara in his *Bālarāmāyaṇa*[9] speaks of the Revā (*i.e.* Narmadā) as the dividing line between Āryāvarta and Dakshiṇāpatha. The same author in his *Kāvyamīmāṁsā*[10] states that Dakshiṇāpatha lies to the south of Mahishmatī (modern Mandhata in the Nimar District or Maheswar in the former Indore State[11]) on the Narmadā. On the basis of these evidences, we may take the Vindhyas or more precisely the Narmadā as the northern boundary of the Deccan. Since the Narmadā does not run all the way across from sea to sea we shall have to follow, in order to complete the dividing line between the north and south beyond the sources of the Narmadā, the course of the two rivers, the Maniari and the Mahānadī, which flows into the Bay of Bengal near Cuttack in Orissa.[1]

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[1] *The Early History of India*, 1924, p. 456.

[2] This description, however, does not conform to the present day map of the southern states in India. Thus the district of Vizagapatam is no longer in Madras, but is a part of Andhra Pradesh which again came into existence at the reorganisation of States in 1956. Similarly, the Ganjam District is now in Orissa while the states of Cochin and Travancore have dissolved within the newly formed state of Kerala. Mysore is also no more a native state, but with its territories considerably increased is a federal state in the Union of India.

[3] The recognition of the Vindhya as the boundary between the North and the South is somewhat vague because in that case the geographical position of the areas covered by the range remains uncertain.

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[1] 114. 46-48.

[2] The extension of the northern limit of Dakshiṇāpatha to Kārusha, which corresponds to modern Shahabad in Bihar is highly interesting. We may refer in this connection to the *Sumaṅgalavilāsinī* (P.T.S. ed., Vol. I, p. 265) which says that Dakshiṇāpatha was a *Janapada* south of the Ganges (*Gaṅgāya dakhiṇato pākaṭajanapadam*). See Malalasekera, *op. cit.*, Vol. I, p. 1050.

[3] *Jāt.*, III, 463; V. 133. Also *Vinaya Piṭaka*, ed. Oldenberg, Vol. I, p. 196 and Vol. II, p. 298.

[4] Vana. 61.

[5] Sircar, *op. cit.*, p. 35n.

[6] LVII. 47.

[7] Secs. 51-53.

[8] *JBBRAS*, Vol. XXIV, pp. 620f.

[9] *Ibid.*, p. 620; *Bālarāmāyaṇa*, Act IV.

[10] GOS ed. p. 93.

[11] Sircar, *op. cit.*, p. 90.

The Deccan as defined above includes within it the southern part of the modern Gujarat State, the whole of Maharashtra, part of Andhra Pradesh lying to the north of the Northern Pennar, the northern part of Mysore along with some adjoining tracts of Madhya Pradesh and Orissa to the south of the river Mahānadī.[2] 'Shelving gradually from west to east, it is generally an area of open valleys and broad plains, broken by the fantastic outlines of the Western Ghāṭs and their outlines ; extensively cultivated within the states of Hyderabad[3] and Mysore, but covered with primaeval forests to the east of the Godāvarī, where it stretches its gentle grades to the crests of the Eastern

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[1] Cf. Smith, *op. cit.* p. 423.

[2] Cf. 'The term Deccan...may be, and sometimes is, extended so as to cover the whole of India south of the Narmada ; but is usually understood as designating a more limited territory, in which Malabar and the Tamil countries of the extreme south are not included. Thus limited the term connotes the whole region occupied by the Telugu-speaking populations, as well as Maharashtra, or the Maratha country. Certain dynasties of Mysore, which had more concern with the Deccan than with the extreme south, are noticed in this chapter more conveniently than they could be in connexion with the Tamil powers'. Smith, *op. cit.*, p. 439. Bhandarkar (*Early History of the Dekkan*, pp. 9-10) and Kane (*JBBRAS*, Vol. XXIV, pp. 620-21) are of opinion that in the *Vāyu Purāṇa* Dakshiṇāpatha, is understood in the sense of a region corresponding to the Maratha-speaking area. The reason for such an assumption is that while the said Purāṇa mentions the Godāvarī, Kṛishṇā and others rising in the Sahya mountain as rivers of Dakshiṇāpatha it does not style the Narmadā and Tāptī in that way. It may, however, be pointed out here that the *Vāyu Purāṇa* apparently did not intend to give a list of rivers on the basis of zones but on the basis of their sources and while dealing with the rivers rising in the Sahya mountain it casually stated that these rivers belonged to Dakshiṇāpatha. The inclusion of the Narmadā and Tāptī in this list of rivers originating in the Western Ghāṭs cannot be expected. As a matter of fact, the rivers of Dakshiṇāpatha when catalogued without any reference to their sources are mentioned side by side (cf. *Kāvyamīmāṁsā,* GOS ed., p. 94).

[3] As a result of the recent states' reorganisations, the former state of Hyderabad has been partitioned among three neighbouring states, *viz.*, Andhra, Mysore and Maharashtra.

Ghāṭs.'[1] This vast sheet of land as it appears from this brief description exhibits varied physical features and at least three natural divisions , *viz*. (1) the great three-cornered upheaval which, abutting on the line of the Western Ghāṭs, slopes with comparatively regular and easy grades to the step formed by the Eastern Ghāṭs overlooking the Bay of Bengal ; (2) the narrow strip between the Western Ghāṭs and the Arabian Sea ; (3) the coastal plain between the Eastern Ghāṭs and the Bay of Bengal.

The central sloping land is a part of an ancient plateau of unfolded rock of primary origin largely crystalline in character. It has an elevation from 1,000 to 3,000 feet above the level of the sea with depressions that coincide with the valleys of rivers. Both geologically and linguistically the plateau may be divided into several zones. Thus there is the trappean region 'covered with luxuriant vegetation and largely peopled by Marāṭhās.' Separated from this region by the Godāvarī and its affluent the Mañjīrā is 'the granitic and calcareous country with the bare rocks and a sandy soil where Telugus predominate.' The third area with its 'Dharwarian Rocks' is situated in the south-west part of the plateau being 'marked off from Marathawara by a waving line drawn from Bidar to Karwar and from Telingana by another line running from Bidar to Adoni.' The territory, inhabited mainly by the Kanarese-speaking people, is variously styled as Kannada, Karṇāṭa, or Karṇāṭaka. "The name of the region is sometimes derived from the Dravidian words, *Kar*, 'black,' and *nāḍu*,' 'country,' that is the black country, a term that aptly designates the black cotton soil, *Kṛishṇabhūmikshetra*, *Vikhyāta-kṛishṇavarṇa...vishaya*, which made this part of the Deccan famous for many ages."[2] This black soil is nothing but an immense accumulation of volcanic rocks, principally basaltic lava, which long ages ago poured out from fissures or cracks in the earth's crust. The lavas have decomposed over most of the area to form a fine rich dark soil, which is highly retentive of moisture and, therefore, does not stand in the need of irrigation. In different parts the soil varies in character and productiveness. It is poor, thin and porous on the slopes of the uplands of the Deccan hills where millets and pulses are the main crops. In the low lands, it is suitable for wheat, millets and cotton. The most important soil in the Deccan traps area is the *regar* or black cotton soil, found mainly in the valleys of the Tāptī, Godāvarī, Narmadā and Kṛishṇā and parts of Kathiawar, Madhya Pradesh and south-west of Gujarat. It is exceedingly compact and tenacious, rich in chemical properties and, owing to the lime it contains, is highly suitable for cotton growing. Other agricultural products in this area are jawar, wheat, linseed and gram. There is also a red soil region which covers the whole of Madras, Mysore and south-west Maharashtra and extends through the east of Andhra Pradesh and Madhya Pradesh to Orissa and Chotanagpur. The consistency, depth and fertility are not the same in different areas. The poor, sandy and light-coloured soils of the arid uplands yield only bajra, while the rich, deep, bright-red fertile loam of the plains produces a wide range of excellent crops. This soil is deficient in nitrogen, phosphoric acid and humus, but potash and lime are generally sufficient. Although the red soil tracts are drained by the Mahānadī, Godāvarī, Kṛishṇā and Kāverī, the use of water by means of canals for irrigation is difficult because of the uneven surface. The red soil areas are, however, admirably suited for storage of rain water in tanks. Cultivation with the help of tank irrigation, therefore, developed in this region. The laterite soil, which covers a part of Andhra Pradesh and Orissa, and of Maharashtra, Kerala and Madras along the Western and Eastern Ghāṭs, is formed by the weathering of laterite rocks. Generally speaking, it is poor on the higher levels where it cannot retain moisture. In the plains it consists of heavy loam and clay and can easily retain moisture.

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[1] *Imp. Gaz.*, Vol. I, p. 42.

[2] Raychaudhuri in *EHD*, p. 5.

The narrow strip of lowlands between the Western Ghāṭs and the sea is broadest in the north near the Narmadā and Tāptī rivers, and in the extreme south in Travancore, where it lies between the Cardamom hills and the sea. "It is a rugged country much broken by spurs from the *ghats*, intersected by rivulets and indented by creeks and coves. In places it is picturesque, with rocky islets and capes, stretches of palm-fringed sand-beach, rich plots of rice-land, and river-mouths that spread out into broad lake-like estuaries. Ancient harbours and market towns lie scattered along the coast-line. They represented in past ages much of the wealth and strength of India."[1] This coastal region, which is 30 to 40 miles wide, receives the full force of the current of the monsoon from the Arabian Sea and, therefore, rainfall is over 100″. The soil is very fertile and crops are rice, spices and fruits.

The eastern coast strip is broader than that in the west and varies from 50 to 80 miles. The spurs from the Ghāṭs occasionally break the sea-board into headlands. The coast-line, though broken by deltas and contains many lagoons, is generally unsheltered and lacking in natural harbours 'safe for ships of deep draught throughout the year'. This deficiency has, however, been to some extent compensated by the open roadsteads that afford anchorage. The three great rivers of the Deccan, the Mahānadī, Godāvarī and Kṛishṇā, after breaking through the Ghāṭs form rich deltas which are the granaries of the south (*deśam…aśesha-śasya-prachuraphala-yutam*). This eastern coast-plain is a low alluvial land. The northern plain has summer rain and the southern winter rain. The average rainfall is between 40″ and 50″. Rice is the principal crop. Millets are also raised.

The hills and mountains in the Deccan influence largely the climatic condition *vis-a-vis* the political and socio-economic history of the country. In the west, the western Ghāṭs run along the coast almost continuously for a distance of about 1,000 miles from the river Tāptī down to Cape Comorin. Its northern portion from the Tāptī down to the Nilgiris was known to the ancient geographers as the Sahyādri[2]. Kālidāsa[3] describes it as *nitambamiva medinyāḥ* and associates it with the people of Aparānta. The Ghāṭs look like an immense wall facing the sea. The mean height is about 3,500 feet, the highest point being 8,700 feet (Dodabetta in the Nilgiris). The important passes connecting the central tableland with the west include the Palghat, Thal, Bhorghat and Nama. The Nilgiris form the converging point of the Western and Eastern Ghāṭs by which the Deccan is surrounded. The spurs, which branch off the main chain of the Western Ghāṭs, run across the central upland to the east for several miles separating the great river basins and often constituting the boundary lines between various *janapadas*.

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[1] Raychaudhuri in *EHD*, p. 5.

[2] Raychaudhuri, *Studies in Indian Antiquities*, p. 112.

[3] *Raghu.*, IV, 51.

The series of detached hills that stretch from the Mahānadī river valley for about 500 miles south-eastwards to the nucleus of the Nilgiris are known as the Eastern Ghāṭs. Unlike the Western Ghāṭs it is much less in elevation, the mean height being scarcely more than 1,500 feet and does not form a continuous chain. The detached hills are known by different names in different parts of the country.[1] The chain is known in its northern extremity by the name of Maliahs. In the Karnul District the name is Nallamalai. Further south the Ghāṭs take the name of 'Palkonda hills'. In the southern extremity of the chain the name is Biligiri Rangan. The Mahendragiri, mentioned as a Kulaparvata in the Purāṇas, seems to have embraced the entire chain of hills extending from Ganjam to Tinnevelly.[2] A portion of the Eastern Ghāṭs near Ganjam is still called Mahindra Malei. There is also a small hill styled Mahendragiri in the Tinnevelly District.

These two famous ramparts running parallel to the two coasts affect the climatic condition of Peninsular India by way of regulating the course of the rain clouds over the area. The chief current of South India is the south-west monsoon, which blows from the Indian Ocean from the end of May to that of September. This carries far more moisture than the north-east monsoon; but the lower strata of the rain clouds are unable to pass over the Western Ghāṭs, so that, while in Malabar and South Kanara on the west coast, the rain owing to this monsoon varies from 100″ to as much as 150″, the fall in the neighbouring districts on the other side of the range is almost everywhere under 25″, and in many places, *e.g.*, the central plain of Coimbatore and Tinnevelly Districts, even less than 15″.

As the force of the south-west monsoon in north-east India dies away, the current curves and drives inland from the Bay of Bengal during October, November and December, it being generally known as the north-east monsoon. The rainfall owing to this is heaviest along a strip of the coast running from the Pulicat Lake to Point Calimere in the Tanjore District, where it averages over 25″, but as the clouds drift inland and part with their moisture they give gradually less rain, the amount received dropping to under 25″ in the belt behind the strip of country mentioned above, and to less than 15″ in the tract east of it. Still further east, the Eastern Ghāṭs check the course of the clouds, and in the areas over west of this range, such as the Deccan plateau, the fall is less than 10″.

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[1] Law, *Historical Geography of Ancient India*, p. 22.

[2] Raychaudhuri, *op. cit.*, pp. 108f.

Unlike Madras coast the coast land of Orissa and Andhra in the deltaic region of the Mahānadī and the Godāvarī enjoys the south-west monsoon fully, its rainy season approximating to that of Bengal. Sometimes during this season, a number of small low pressure belts are formed on the northern side of the Bay of Bengal. These expose the coastal area to the rage of cyclones, which bring fierce storm waves that sweep over the low coast-land of the deltas of the Mahānadī and the Godāvarī and cause serious damage to the agriculture of the region.

The heavy rainfall on the two coasts of the Peninsula makes the temperature of the area moderate while the plateau between the ranges enjoys a continental climate.

Favoured by rain-shower and situated in the tropical zone, the major part of the Deccan during our period was covered by dense forest. Even today after much deforestation, about 71 per cent of the forests of India lie to the south of the Vindhyas. They are distributed as follows :—[1]

Peninsular hills and Plateau regions	—	49%
Western Ghāṭs and Coastal regions	—	10%
Eastern Ghāṭs and Coastal regions	—	12%
Total	—	71%

Broadly speaking there are three types of forests in the Deccan. (1) The forest in the plateau regions is of monsoonal deciduous character. Sal, teak and a great variety of other valuable trees are found in these areas. (2) Evergreen forests occur in the western coast of the Peninsula where rainfall is heavy. The plants are bamboo, palm, fern and Indian rubber, the last being added very recently. (3) Littoral forests occur on the sea coasts and along tidal creeks. The most characteristic trees belong to the mangrove family.

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[1] See *Indian Forest Statistics*. 1953-54.

The general slope of the tableland is from the eastern base of the western mountain chain down to the Coromandel District, while the fall is sudden and precipitous on the western side of the mountains. Almost all the drainage is, therefore, from the west to the east, 'the area of the country drained by rivers running west-ward being only the narrow strip of territory between the Western Ghāṭs and the sea'. Of the rivers flowing into the Bay of Bengal, the Mahānadī, Godāvarī, Kṛishṇā and N. Pennor are most important. Two other important rivers on the northern fringe of the Deccan *viz.*, the Tāptī and Narmadā, flow into the Arabian Sea. As the Peninsular rivers are all rain-fed they turn into mere puddles during the dry season. Navigation on these rivers is, therefore, hardly possible during summer even by small boats.

The basins of the Godāvarī and Kṛishṇā almost divide the Deccan highlands between them. The basin of the Pennar also includes a part of the plateau. 'The small streams and rivulets which, emerging from the embrace of the eastern slopes of the Ghāṭs, unite to form these rivers as they gradually pursue an uneventful course through the shelving flats of the Deccan, pass through districts which are almost monotonously similar in their physical characteristics'.[1]

The most northernly river of the Deccan is the Narmādā. It was also called Revā, which again was the name of one of its affluents. Both the *Meghadūta*[2] of Kālidāsa and the Mandasore inscription[3] of Yaśodharman say how the pale mass of the waters of this river is to be seen straggling down the slopes of the Vindhyas. It rises from the Maikal section of the Vindhyan range and flows through Madhya Pradesh more or less in a southwardly direction. It is significant that another name of this river, Mekalasūtā, indicates its source and preserves the name of the ancient territory of Mekala. A little above Mandla, the Narmadā receives the waters of the Revā which rises in the Amarakaṇṭaka hills, and then flows down under either name.

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[1] *Imp. Gaz.*, Vol. 1, p. 43.

[2] *Revāṁ drakshyasyupalavishame Vindhyapāde viśīrṇām/Bhaktichchhedairiva virachitaṁ bhūtimaṅge gajasya//Pūrvamegha*, v. 19.

[3] *CII*, Vol. III, p. 154.

Passing through the former state of Indore and flowing past Rewa Kantha it enters into the Gulf of Cambay by an estuary near the city of Broach. As the river takes its course between the two great mountain ranges of the Vindhya and Satpura, it is fed by a large number of small tributaries. Before the river enters Indore, it is joined by no less than thirteen tributaries. It is further fed by seven tributaries, four on the left and three on the right, as it flows through Indore. In the rest of its course, the Narmadā receives no more tributary. For about a hundred miles from the sea, it is navigable in all seasons by country boats, and during the rains by vessels of fifty tons burden.[1]

Another river that flows into the Arabian Sea is the celebrated Tāptī, also known as Tāpī. In some Purāṇa texts,[2] it along with many others has been correctly described as *Vindhyapādaprasūtā*. The river originating in the Multai plateau in the Betul District flows westward through Madhya Pradesh and Gujarat and meets the sea a little above Surat. Within Madhya Pradesh, it is embraced by four tributaries. In eastern Khandesh, it is met with a very important river called the Purṇā. Six more rivers meet the Tāptī on the left before it empties itself into the sea. It receives only two tributaries on the right.

These two rivers, Narmadā and Tāptī, run for the most part between high banks, and are of little use for navigation. Towards the south, the hill streams which rise in the Western Ghāṭs and flow west into the Arabian Sea are very numerous but of little importance. During the rains they become formidable torrents, but in the hot season they dwindle away and almost cease to flow. In the lowlands of the Koṅkan, their annual floods have created deep tidal creeks which form valuable highways for traffic. In the district of North Kanara, such rivers become longer ; one of them the Śarāvatī, plunges downwards from the mountains in the celebrated Falls of Gersoppa.

Of the rivers flowing into the Bay of Bengal the Mahānadī at first comes to our view. It rises from the hills at the south-east corner of Berar and flows past Sihoa and passes through Bastar, Bilaspur and Raigarh in Madhya Pradesh before entering Orissa in Sambalpur. It then takes a south-eastern course and flows past the town of Cuttack and reaches the Bay of Bengal at Falls Point, forming a large delta. Crags and peaks of a wild beauty overhang on the course of the Mahānadī which at one part is so narrow that the water rises 70 feet in times of flood. From the north bank of the Mahānadī, the ranges tower into a fine watershed, from 2,000 feet to 2,500 feet high. The river is fed by five tributaries on its course. It is navigable throughout by flat-bottomed boats of about 25 tons burden.

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[1] *Imp. Gaz.*, Vol. VIII, p. 271.

[2] Sircar, *op. cit.*, p. 51 : cf. also *Tāpī nāmā nadī cheyaṁ vindhyamūlād viniḥsṛitā* (*Skanda Purāṇa*, Prabhasa Khaṇḍa, 11, 108).

Between the Mahānadī and Godāvarī, there are several streams of lesser importance. The Chhoṭa-Mahānadī rises in the district of Ganjam and meets the Bay at Chandrapur. The Vaṁśadharā, which is an internal river of Ganjam, falls into the Bay at Kalingapatam. The Lāṅguliya (ancient Laṅgulinī) rises in the hills of Kalahandi and flows south through the district of Ganjam to empty itself into the Bay below Srikakulam. The Ṛishikulyā is the northernmost river in the Ganjam District which flows into the Bay past the town of Ganjam. The Trisāmā (also called Tribhāgā or Pitṛisomā) and the Ṛishikulyā are mentioned in the Purāṇas as two separate rivers ; but it seems that they are one and the same. The Ṛishikulyā bearing the descriptive name of Trisāmā-Ṛishikulyā signifies that the name was applied to the united flow of the upper streams.

In the list of sacred places in the south, the *Mahābhārata*[1] mentions the Godāvarī as a holy river. The *Brahma Purāṇa* devotes about a hundred chapters (70-175) to the Godāvarī and testifies to its sanctity. An inscription of the Yādava king Rāmachandra[2] describes it as the ornament of Seuṇadeśa. It is the largest and the longest river in South India. It rises in the Western Ghāṭs and then flows in a south-easterly direction below the Vindhya range on its way to the Bay of Bengal. Crossing the entire plain of the Deccan and cutting across a valley through the Eastern Ghāṭs it reaches the Bay in seven branches forming a large delta at the mouth. This is probably the reason why the river is called the Sapta-Godāvarī. In its course, the river receives ten tributaries on the left and eleven on the right. The most important among these are the Purṇā, Kadam, Prāṇhitā, Indravatī, Sabari-Sileru, Sindphanā, Mañjīrā, Maner and Kinarasani, the first five joining the Godāvarī on the left and the rest on the right.

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[1] Vana., ch. 88.

[2] *IA*. Vol. XIV. pp. 314-15.

The Kṛishṇā, literally 'of black hue', apparently derives its name from the black soil, *kṛishṇabhūmi, kaṛenāḍu*, which it moistens with its water.[1] It rises in the Sahyādri (Western Ghāṭs) near Mahabaleshwar about forty miles from the Arabian Sea. In length, the Kṛishṇā is about 800 miles, *i.e.*, about 100 miles less than the Godāvarī, but the area of its catchment of basin, including that of its two famous tributaries the Bhīmā and Tuṅgabhadrā stretching about 95,000 square miles, compares favourably with the 112,000 square miles of the Godāvarī. It flows through the Deccan at first in an east-south and then south-easterly directly. Finally, breaking through the Eastern Ghāṭs, it falls into the Bay of Bengal. In its course, the river receives a number of affluents. Near about Athni it is joined by the combined waters of several streams of which the Koinā, Varṇā and Veṇā or Yenna are well known. The combined stream of the Kṛishṇā and Veṇā is often mentioned as Kṛishṇaveṇā or Kṛishṇaveṇī. Before entering the former state of Hyderabad, it receives the Malaprabhā on its right bank below Muddebihal. On reaching Hyderabad, the river drops from the tableland through which it had forced its way down to the celebrated doabs of Shorapur and Raichur. The first of this is formed by its junction with the Bhīmā, which figures prominently as a Sahya river in the Purāṇas. The Raichur Doab is formed by the confluence of the Kṛishṇā with the Tuṅgabhadrā, which is formed by the union of the twin streams, the Tuṅga and Bhadrā, both of which have their origin in the Western Ghāṭs. These two streams after meeting each other near Haihar flow in the north-easterly direction under the name Tuṅgabhadrā and join the Kṛishṇā north of Nandikotkur in the district of Karnul. Among other important tributaries of the Kṛishṇā mention may be made of the Dhon, Dindi, Peddavagu,

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[1] See *EHD*, p. 10.

Musi-Aler, Paler and Muner. Thus, swollen by many affluents the Kṛishṇā runs past a number of important cities and flows through the classic land between the cities of Dhānyakaṭaka-Amarāvatī and Vijayavāṭikā (Bezwada) to enter the sea by two principal mouths, forming a wide delta.

The Northern Pannar is a comparatively small river. Rising in the hills near Bangalore in Mysore, it flows north-north-east up Pamidi in the district of Anantapur in Andhra Pradesh, from which place it turns south-east and reaches the Bay of Bengal.

It will appear from the brief discussion above that the region under study is not homogeneous at least physically. The two dominating ranges, *viz.*, the Western and Eastern Ghāṭs along with their innumerable spurs, the small and large rivers, the dense forest tracts, the central tableland at some places covered with fertile black-soil and at others barren, the rich deltas in the coastal regions, the unequal distribution of rainfall all play an important part in moulding the social habits and political and cultural activities of the Deccan. The rich fertile plain lying between the Kṛishṇā and Tuṅgabhadrā was always a bone of contention between the powers exercising authority to the north of the Kṛishṇā and to the south of the Tuṅgabhadrā from early times. The struggle for Berar which also was a prize coveted both by those "who hold Malwa and those who hold the Deccan plateau", says H.K. Sherwani, "is explained by the fact that Berar forms almost the first of the lavaic crescent and is always the butt of the greedy eyes of their northern neighbours."[1]

The numerous spurs of the Western Ghāṭs scratching the Plateau, the rivers and their tributaries and the impenetrable forests clothing many of the mountains and covering the face of many river valleys at various points cleaved the country into innumerable small states "whose kaleidoscopic changes and combinations it was difficult to check". The political history of the Deccan was, therefore, the history of a number of local dynasties. There were occasional and sometimes successful (though for a very limited period) attempts to unite the Peninsula under one sceptre and such boats like *tri-samudra-toya-pīta-vāhana* and *tri-samudrādhipati* are mere expressions of an ambition which every powerful king of South India cherished in his heart.[1] But, apart from the policies of kings and dynasties, the people of Peninsular India were, as we know from literature and epigraphic records, more concerned with commerce and maritime activities than with political expansion. Thus an inscription[2] in Baligami in Mysore speaks of the brave Valaṅgai and Elaṅgai along with the Nānādeśis who used to wonder over many countries by land and water routes and trade in various articles such as horses and elephants, precious stones, perfumes, and drugs, either wholesale or retail. The vast tableland and the deltaic regions with their rich mineral and agricultural wealth favoured the growth of commerce through the ports lining the eastern and western seaboards. These ports were connected with the inland towns and cities by a network of land and river-routes, which even defied the barriers of the Ghāṭs. Even when the hills and jungles on the north, that fenced the entire Peninsula off from the Indo-Gangetic plains, tended to constitute it a world by itself with distinct social, ethnic and cultural traits, they did not prove insurmountable to the adventurous caravan-traders and merchants coming to the south in quest of wealth.[3]

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[1] Quoted by K.M. Panikkar, *Geographical Factors in Indian History*, p. 216.

A few words may be said here with regard to the influence of the ocean upon the life of the Deccanese people. The close association with the sea made the inhabitants of the coastal regions fearless and adventurous sailors. The idea of conquering the sea always haunted them and the result was the discovery of a number of places hitherto unknown to them. Going there both as colonists and traders they also widened the geographical horizon of Indian civilisation. Lévi[1] has pointed out that the sea-routes to the East from the ports of South India had come into common use many centuries before the Christian era. Trade relations with the West also opened well before the said era. This maritime trade was regulated by the wind currents, better known as the monsoonal wind currents, which are specially important and are perhaps unique in their effects.[2] The monsoon, whose regular action was known to the Indian sailors from very early times, was discovered for the West sometime about the middle of the 1st century A.D. and since then it dominated the navigation of the Arabian Sea and the Bay of Bengal till the invention of steamships in the 19th century. The south-west monsoon blowing across the Arabian Sea determined for centuries the trade route which the ships followed. Following this wind, they sailed from the Arabian and Red Sea ports to the coasts of India. The same monsoonal wind-current, likewise, governed sailing over the Bay of Bengal. For a period of well over five months, the direction and route of sailing were determined by these winds and navigators of the Indian Ocean who had closely studied the action of these phenomena were able to make full use of them.

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[1] To the kings of South India, the Peninsula was conceived as a separate *chakravarti-kshetra* as distinguished from Āryāvarta. The Sātavāhana kings of the Deccan claimed to have been the lords of Dakshiṇāpatha and Gautamīputra Śātakarṇi, a king of this dynasty, claimed that his chargers drank the waters of the three seas, *i.e.* the Bay of Bengal, the Indian Ocean and the Arabian Sea. A Sātavāhana king is mentioned in Bāṇa's *Harshacharita* (N.S. Press ed. p. 351) as the 'Lord of three seas'. The Chālukyas of Bādāmi claimed to be lords of the land lying within the three seas : *tri-samudra-madhyavarti-bhūvana-mandalādhiśvara* (cf. *EI*, Vol. XIX, pp. 64, etc.) The Mulgund inscription of Pañchāla similarly represents him as the lord of the whole country bounded by the eastern, western and southern seas (*BG*, Vol. I, Part II, pp. 301, 432). The Eastern Chālukyas sometimes claimed their suzerainty over Dakshiṇāpatha bounded by the Narmadā and the Setu (Venkataramanayya. *loc. cit.*). For a discussion on the *chakravarti-kshetra* see Sircar, *op. cit.*, pp. 1ff.

[2] *EC*, Vol. VII, p. 118.

[3] Cf. the Nānādeśis and Paradeśis (organisations of foreign traders) in the medieval inscriptions, who came to the south for the purpose of trade (see Sircar, *Indian Epigraphical Glossary*, s. v., *nānādeśi* and *paradeśi*).

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[1] "It ought to be remembered that India is a great maritime country, open to a vast sea forming so exactly its Mediterranean, a Mediterranean of proportionate dimensions...which for a long time was believed to be closed in the south. The movement which carried the Indian colonisation towards the Far East, probably about the beginning of the Christian Era, was far from inaugurating a new route, as Columbus did in navigating towards the West. Adventurers, traffickers and missionaries, profited by the technical progress of navigation and followed, under the best conditions of comfort and efficiency, the way traced from time immemorial, by the mariners of another race, whom the Aryan or Aryanised India despised as savages. The daring and skill of these men she was unable to appreciate before and she continued to ignore all that she owed to them." Levi, *Pre-Aryan and Pre-Dravidian*, pp. 125f.

[2] The name 'monsoon' signifies anything which returns at a stated period and the wind is so-called because it blows six months from the north-east, and six months from the south-west. "This wind unknown in the Great Atlantic and Pacific Oceans, extends, with a variety of inclinations, through all the seas of India from Japan to Madagascar ; its general course only is north-east and south-west ; its particular deviations depend on the position of mountains, capes, and bays, which sometimes obstruct or direct its course ; and near the coast it almost universally gives way to the land and sea breezes, which blow alternately every twenty-four hours". Vincent, *Commerce of the Ancients*, p. 41.

Allusions may also be made to the revolving storms of the Bay of Bengal, an ever-present danger to shipping in that area. Another factor of importance relating to the Indian Ocean is its essentially tropical character. Its northern end does not go much beyond the Tropic of Cancer. Its coasts are, therefore, free from the effects of icebergs and other obstructions arising from the frozen polar regions. Heavy mists, fog and other difficulties, which constitute serious headache to the navigators, are also absent in the Indian Ocean.

2

Land

1. Problem of Ownership

R.S. Sharma[1] observes that the subjects of the Sātavāhana rulers could not sell and purchase land for secular purposes as not a single record of this period refers to this type of land transactions. In his opinion, they could dispose of their land only for religious purposes. In another place the author maintains on the same ground that 'individual ownership did not carry the right to freely dispose of land under all circumstances.'[2] Such a conclusion based on purely negative evidence is difficult to accept. We do not think it possible that the system of disposing land for religious purposes could develop without the background of land transaction for secular purposes. The learned scholar does not note that besides the possibility of the majority of sale deeds being recorded on impermanent material the fact remains that in ancient India little difference was made among *kara-śāsana*, *tāmra-śāsana* and *kraya-śāsana*.[3] Instances are not rare to show that the *kraya-śāsanas* and *kara-śāsanas* often quoted the usual imprecatory and benedictory verses meant for the *tāmra-śāsanas* or charters recording revenue-free gifts of land. A *kara-śāsana*, however, can claim some merit when the land is given free of cost or at a reduced price and the tax charged is below the normal rate. But any such claim on the part of a private *kraya-śāsana* is not possible. The following quotations from Vijñāneśvara's remarks in the *Mitāksharā* on the *Yājñavalkaya-smṛiti*, II. 114 explains the ancient Indian attitude in this respect : *sthāvarasya vikrayapratishedhāt...dāna-praśaṁśāch cha vikraye'pi kartavye sahiraṇyam udakaṁ dattvā dānarupeṇa sthāvra-vikrayaṁ kuryāt.*

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[1] 'A Survey of Land System in India from c.200 B.C. to A.D. 650,' *JBRS.*, Vol. XLIV, p. 225f.

[2] *Ibid.*, p. 232.

[3] See Sircar, 'Some *Kara-śāsanas* of ancient Orissa', *JRAS*, 1952, pp. 9f.

It is thus apparent that in ancient India even a sale of land was represented in the form of a gift. So, in spite of the absence of any reference to sale in the land grants, some of them appear to be based on a transaction involving sale.[1]

Records of land transaction during our period are few. One such deal is recorded in the Urlam plates[2] which inform us that the Gaṅga king Hastivarman purchased two and a half ploughs of land in the village of Hoṇḍevaka from the *agrahārikas* and after making it an *agrahāra* handed over to one Jayaśarman. No details as to the price paid or the formalities observed in the transaction are given in the record. In a similar document[3] of comparatively earlier period we are offered with a few more details. This record engraved in a cave at Nasik says that Ṛishabhadatta purchased a field from a Brāhmaṇa for 4000 *kārshāpaṇas.* It is of no use to speculate about the size of the field purchased in order to determine the existing land price. The inscription concludes by saying that the field was meant for producing food for all monks residing in Ṛishabhadatta's cave. As there is no mention of the number of the monks the possibility of guessing the size of the field is impossible.

The above two records throw welcome light on the system of land-tenure in ancient Deccan. These two inscriptions prove that right of an individual over his landed property was respected by the state. The right of alienation of one's own holding by means of sale and purchase was recognised. Even when the state required a certain plot of land it was not confiscated outright but generally purchased from the holder.

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[1] See *EI*, Vol. XXVIII, p. 48n. It is interesting to note in this connection that Nārada and Bṛihaspati (quoted in the *Vivādaratnākara*, p. 189 ; see also Ghoshal, *The Agrarian System in Ancient India*, p. 88) declare both movable (*jaṅgama*) and immovable (*sthāvara*) property to be vendible commodities (*paṇya*).

[2] *Ibid.*, Vol. XVII, pp. 330ff.

[3] *Ibid.*, Vol. VIII, pp. 78ff.

Although private ownership was recognised it should be remembered that the ultimate ownership though theoretical was vested with the king. It is unnecessary here to cite illustrations from the *śāstras* supporting royal ownership, so often done by many scholars. Inscriptions imply that the concept of ultimate royal ownership was firmly established during the period under review. A number of epigraphs belonging to this period record the grant of a village, a part thereof or a plot of land by the kings. In India the earliest inscriptional evidence for this type of land grants belongs to the 1st century B.C. when a Sātavāhana king donated certain villages to the priests as their perquisite for conducting the performance of sacrifices.[1] This inscription is followed by a large number of charters where the kings are found to grant such comprehensive rights to the grantees which no other person than the owner could do. It may, however, be argued that the king was not the owner of land since in no charter he is found to grant the donee the right to dispossess the peasants. But the very fact that the free holders paid revenue to the king, which reduced themselves to the position of tenants, itself suggests the general acceptance of the theory of royal ownership. Megasthenes[2] explicitly says that the husbandmen paid a 'land-tribute' because the king was the ultimate owner of land. It is implied in this statement that anybody who refused or failed to pay land revenue lost his right to enjoy landed property.[3] Thomas,[4] therefore, is right, when he concludes that the king was the proprietor of land in so far as he was entitled to revenue and could replace the defaulting cultivator from his holding. Elucidating this point another scholar observes, "it was a sort of perpetual lease on the annual performance of an obligation. For all purposes including alienation, the lessee is the owner and considers himself as such, and the lessor has the right of only demanding performance of the obligation. But once the lessee fails to do his duty, the lessor's ownership asserts itself."[1] In support of this deduction he has cited the authority of the *Arthaśāstra*[2] where it is said that the king may confiscate lands from those who do not cultivate them and give it to others. Bose,[3] however, argues that the instruction is with reference to newly settled or colonised areas which undoubtedly were crown lands. But it has not been understood that here the *Arthaśāstra* refers to crown lands which had already been converted into villages inhabited by Brāhmaṇas, royal officers, artisans and peasants. Not being in favour of undiluted royal ownership, Bose[4] says, "the very fiscal term *bhāga* or *rājabhāga* which denotes king's regular and legitimate share as opposed to controversial and additional imposts on land produce, would indicate a partnership of title between the peasant and the king." Had this been the actual state of affairs, the king was to enjoy *bhāga*, which was usually 1/6th of the produce, after supplying 1/6th part of the seed requirements, the cost of sowing, harvesting and so on. But nowhere, either in the lawbooks or in the inscriptions, do we find that, for the enjoyment of *bhāga*, the king had to perform these obligations. In fact, like *lavaṇabhāga*[5] and *udakabhāga*,[6] *bhāgha* was a kind of revenue, which, as it appears from Magasthenes' account, the king demanded in addition to a land-tribute as the ultimate owner of land and not as partner in title.[7]

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[1] *Select Ins.* pp. 187-88.

[2] *Diod.* ii, 40 ; *Strabo* XV. 1. 39-41, 46-49.

[3] The cases of eviction for non-payment of revenue are not rare in Indian inscriptions, *e.g.* an inscription from Koyil Tirumalam, Tanjore District records that the holdings of two individuals were forfeited for non-payment of revenue, see Appadorai, *Economic Conditions in Southern India*, Vol. I, p. 115 ; cf. also *SII*, Vol. III, pp. 9 and 14.

[4] *CHI*, Vol. I, p. 475.

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[1] M.H. Gopal, *Mauryan Public Finance*, p. 62.

[2] II, I. An inscription at Emapperur, South Arcot registers an order of Rājendra Choladeva confiscating the lands of persons who did not settle down and had migrated and granting them to those who settled down and cultivated on payment of taxes (Appadorai, *op. cit.*, pp. 115ff.).

[3] *SRENI,* p. 32n.

[4] *Loc. cit.*

[5] *AS*, II. 12.

[6] *Ibid.*, pp. 11, 24.

[7] According to Kātyāyana (quoted in the *Rājanītiprakāśa* of Mitramiśra, p. 271) the king is entitled to *bhāga* and *bali* since he is the lord of the soil. Ghosal (*op. cit* , pp. 98f.) is of the opinion that as this statement is laid down not as a definite head of law, but as argument for justifying or explaining the king's right to levy specific branches of the revenue from land it is not wise to conclude that the theory of royal ownership was already an established fact. But it cannot be ignored that Kātyāyana's comment betrays among the princely class a consciousness about the

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While the king enjoyed some sort of general right over all land, he held under his direct control a vast territory corresponding to the demesne lands of the English sovereigns. Sewell[1] observes, "The system is well-known in India, where a prince holds what are called *khās* lands, *i.e.* lands held privately for his own personal use and benefit, as distinct from the lands held under him by others, the revenue of which last ought to go to the public purse". This observation is fully corroborated by a Nasik inscription[2] where Gautamīputra Śātakarṇi is stated to have granted one hundred *nivartanas* of royal land (*rājaka kheta*) to certain ascetics. The Chendalur grant[3] of Kumāravishṇu II refers to 800 *paṭṭikās* of *khās* land (*rāja-vāstu*) in the village of Chendalura. Kauṭilya[4] advises the king to employ slaves, labourers and prisoners (*daṇḍapratikartṛi*) to sow seeds on crown lands which have been satisfactorily ploughed.

In addition to the large tract of homestead and cultivated land, unoccupied waste, both fallow and cultivable, were theoretically under the king's possession. Kauṭilya[5] says that a king should try to colonise these waste lands. It may be assumed that in many cases gifts of land to the Brāhmaṇa donees are indeed covert attempts at colonising waste lands. As a matter of fact we are familiar with such endeavours in Bengal.[6]

The property of a person, who died without leaving any heir, was appropriated by the king. In the Bonda plates[7] of Mahāśiva Tīvara, we are told that the king conferred upon the donee certain privileges 'together with the enjoyment of *aputrika-veṇī*'. The word *veṇī* means 're-united property after it was once divided.' The expression *aputrika-veṇī* has probably been used in this record in the sense of 'the property of a person who died without leaving an heir.' This is sometimes mentioned

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royal right over the land which was not without the backing of a group of lawyers (cf. *Manu*, VIII. 39 ; *Rām.*, III pp. 275, 23 ; Bhaṭṭsvāmin on *AS*. II, 24).

[1] *A Forgotten Empire*, 1962, p. 36n.

[2] *EI*, Vol. VIII, pp. 72ff.

[3] *Ibid.*, p. 233.

[4] *AS*, II. 24.

[5] *Ibid.*, II. 1.

[6] *Select Ins.*, pp. 280ff., 283ff ; 324ff., 337ff., 342.

[7] *EI*, Vol. XXXIV. pp. 111ff.

as *aputrā*, *āputraka* or *aputrakadhana* in inscriptions.[1] We may note here that according to Bṛihaspati[2] and Nārada,[3] if a Kshatriya, Vaiśya or Śūdra dies without issue, or wife or brother, his property should be taken in escheat by the king, for he is the lord of all. Kālidāsa[4] likewise affirms that the property of a childless person would go to the king. It is well-known that the Chaulukya king Kumārapāla (1143-73 A.D.) after his conversion to Jainism prohibited the earlier practice of confiscating the property of persons dying without male heirs.[5]

The state enjoyed a monopoly right over mines including salt-centres. Vishṇu[6] states that everything dug up from mines belongs to the king. Manu[7] prescribes that one-half of the ancient hoards and metals unearthed from the ground belongs to the king. Such *parihāras* like *a-loṇa-khādaka*, *a-lavaṇa-kreṇi khanaka*, *a-lavaṇaklinnakkreṇikhanaka* occurring in so many land charters suggest that salt-digging was a state monopoly; we have, however, no direct evidence to show that the Deccanese rulers enjoyed similar rights over other mines. Royal right also extended over treasure-trove. We may cite numerous instances from the epigraphs where kings are shown to forego their claim over treasure trove. In the Smṛitis[8] it has been described as a standing source of royal income.

The canals and tanks excavated by the state government were under the king's control and could not be utilised for irrigation purposes without his permission. This is indicated by the Achyutapuram plates[9] of the Gaṅga king Indravarman II, where the king allows a Brāhmaṇa donee to utilise the water of the *rājataṭāka* in the village of Siddhārthaka for the purpose of irrigation. The Siddhantam plates[10] of Gaṅga Devendravarman informs us that one *hala* of land, including the water-course, was given to Tamparaśarma-Dikshita, but that he was not allowed to enjoy absolute ownership over the water-course. On the other hand he was asked to share the water during the summer (*grīshmodakam*) along with other families of the locality.

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[1] *Ibid.*, Vol. XXVIII, p. 290 and note ; Vol. XXX, p. 170.

[2] XXVI. 119.

[3] XIII. 51.

[4] *Abhijñānaśakuntala*, Act. VI.

[5] *HRS*, p. 258.

[6] III. 39.

[7] VIII. 35-39

[8] *Nārada*, VII. 6-7 ; *Gaut*, X. 43 ; *Vāśishṭha*, III. 13 ; *Yāj*. II. 34-35.

[9] *EI*, Vol. III, pp. 127f.

[10] *Ibid.*, Vol. XIII, pp. 212f.

2. Types of Land

From the scraps of information given in the land grants, we may classify land under the following heads : (1) arable land ; (2) habitable land ; (3) pasture land ; (4) gardens ; (5) reclaimed land and (6) forests. Besides there was a vast stretch of waste land awaiting reclamation.

The first type includes *kedāra* or wet land. A reference to the latter type may be found in records like the Davangere plates[1] of Ravivarman, a Chera grant[2] from Mallohalli and the Kudgere grant[3] of Mandhatṛivarman. It was not generally very suitable for cultivation and during heavy rains it remained under water.

Sometimes the kings are seen to grant, together with a cultivable land or a village, a house site or *gṛiha-sthāna*.[4] It may be assumed on the analogy of present day practice that elevated land where rain water cannot stand was generally selected for building purposes.

The Poona plates[5] of Prabhāvatīguptā mentions *chārāsana*, which, according to Fleet, means pasturage. But Sircar[6] says that this may refer to the king's travelling agents, *chāra* (sometimes substituted by *pāra*, *i.e.* ferrying across rivers) and *āsana* meaning respectively 'moving about' and 'encamping'. But specific reference to the pasture land may be found in the Siroda plates[7] of Devarāja which record the grant of a *go-prachāra*, *i.e.* pasture land for cows. Pasture lands were usually a common property of the villagers where they could graze their cattle without restriction. The Smṛitis,[8] Purāṇas[9] and the *Arthaśāstra*[10] emphasise the need of providing every village and town with a public pasture.[1] The *goshṭa* mentioned in a verse of the *Gāthāsaptaśatī*[2] seems to have been the cattle ranch. In the Hirahadagalli plates[3] we meet with two classes of royal officers known as *vallava* and *govallava*, who were evidently associated with the grazing of cattle and animals belonging to the king.

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[1] *EI*, Vol. XXXIII, pp. 87ff.

[2] *IA*, Vol. V. pp. 138ff.

[3] *EI*, Vol. VI, pp. 12ff.

[4] Cf. *Ibid* , Vol. XIII, pp. 212ff ; Vol XXIV, pp. 143ff; Vol. XXXIII, pp. 293 ff.

[5] *Ibid.*, Vol. XV, pp. 39ff.

[6] *Select Ins.*, p. 414n.

[7] *EI*, Vol. XXIV, pp. 143ff.

[8] *Manu*. VIII ; *Yāj*. II. 166-67.

[9] Cf. *Matsya*, CCVI.

[10] II. 2.

In the inscriptions we sometimes come across place names ending in *padra*, *e.g.* Ākāśapadra,[4] Rasopadra,[5] etc. Sircar[6] suggests that the last part of the name, *viz. padra*, village, may be traced to the modern *pādar* 'common land adjacent to a village left uncultivated.'

The Dhavalapeta plates[7] of Umāvarman record the grant of a village including the *vāṭaka*. Though *vāṭaka* may mean road in the present context, the term seems to refer to garden. Be that as it may, a clear reference to garden is to be found in the Hirahadagalli inscription which states that prince Śivaskandavarman made the gift of a *vāḍaka* in the village of Chillareka. The grant of gardens is also mentioned in other inscriptions.[8] A garden land, where flower and fruit trees were grown, was obviously different from the land producing staple crops.

A vast stretch of land, as indicated in the previous chapter, was covered with forest. Sometimes attempts were made to reclaim the forests by settling Brāhmaṇa families therein. Thus we see in the Bandora plates that some land to be reclaimed by clearing the forest (*araṇya-karshaṇa*) by employing four batches of workers (*preshya-kula*) was granted to a Brāhmaṇa.

In the inscription of the western Deccan dating from *c.* 6th century A.D. we occasionally meet with the term *khajjana*, and its variant forms, *viz. khajjaṇa*, *khajjāna*, *khajjaṇaka.*[9] A.M.

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[1] See Niyogi, *Economic History of Northern India*. p. 9.

[2] VII. 38.

[3] *EI*, Vol. I, pp. Iff.

[4] *Ibid.*, Vol. XXVI, pp. 137ff.

[5] *Ibid* , Vol. XIV, pp. 153ff.

[6] *Select Ins.*, p. 407n.

[7] *EI*, Vol. XXVI, pp. 132ff.

[8] *Ibid.*, Vol. XIX. p. 104 ; Vol. XXXIII, p. 293.

[9] See Sircar, '*Khajjana=Khajjāna=Khajjaṇa=Khajjaṇaka.*' *EI*, Vol. XXXIII, pp. 53f.

Annigeri while editing the Arga (Karwar District) plates[1] expressed his inability to explain the term *Pukkoli-khajāna* occurring in the said record. P.B. Desai[2], however, comments in an editorial note on this inscription that the word *khajjana* and its variants may denote 'a specific area of cultivable land or locality.' But this view seems to be unwarranted for, as suggested by R.G. Bhandarkar[3] and D.C. Sircar,[4] *khajjana*, etc., are the same as the Marathi word *khajan* or *khājan* meaning a marshy land. Wilson in his *Glossary* interprets this word as 'a salt-marsh or meadow ; land lying along the shore of the sea or of inlets, and exposed to be flooded ; ground recovered by embankment from sea.' Also according to the *Mahārāshṭra Śabdakosha* the word means 'the area (near the sea-shore) on which a thin layer of sand and mud accumulates after the ebb-tide coming through inlets ; a rice-field created out of such an area near a hillock by erecting embankments on the three other sides ; a field created by reclamation of the river bed'. The Bandora plates, which record the grant along with others of one *hala* of *khajjana* land, clearly support this meaning in the passage *lavaṇa-jalam setunā nivāryya kshetramutpādya*. It follows, therefore, that *khajjana* and its variant imply a particular type of reclaimed land. As observed by Sircar[5] the mention of an object standing within a *khajjana* in the Bandora plates and of a *khajjana* by the name *kalpa* in the Panjim plates[6] go against the suggestion that the term implied a specific area of land. *Pukkoli* (also spelt as *pukkūli* and *pukkolli*) which occurs in certain Sanskrit inscriptions from the Kannada-speaking area in expressions like *pukkoli-kshetra* or *pukkoli-khajjana* is likewise a kind of reclaimed land of the same or similar type.

3. *Demarcation of Boundaries*

The need of maintaining proper boundary marks to avoid probable disputes was keenly felt from very early times. Vijñāneśvara[1] divides the boundary marks under two categories, *viz.*, visible and invisible. By quoting Manu the commentator states that one can mark the boundary by *nyagrodhas*, *aśvathas*, *kiṁśukas*, cotton trees, *śālas*, palmyra palm and trees with milky juice. Among others shrubs, bamboos of different kinds, *śamī* trees, creepers and raised mounds, reeds, and thickets of *kubjaka* were also suitable for boundary demarcation. Further, the existence of temples, tanks, wells, cisterns and fountains on boundary junctions is preferred. These are all visible marks in which category are also included mounds (*sthalam*) embankments (*setu*) or dam, and heaps of stone (*chaitya*). A similar list of visible marks may be found in the writings of Bṛihaspati[2] and Nārada.[3]

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[1] *EI*, Vol. XXXI, pp. 232ff.

[2] *Ibid.*, p. 234n.

[3] *Op. cit.*, p. 63.

[4] *Op. cit.*, p. 53.

[5] *Loc. cit.*

[6] G.M. Moraes, *Kadambakula*, p. 397 ; *BISMQ*. Vol. XXXI, part IV, pp. 27ff.

Referring to the invisible marks Manu[4] says, "considering that men err constantly in their knowledge concerning boundaries, let him (*i.e.* the king) cause to be made other marks of boundaries which remain hidden, like stone, bones, cow's tail, chaff, ashes, potsherds, dry cow-dung, bricks, cinders, pebbles, and sand. And whatever other things of a similar kind the earth does not corrode (even) after a long time, these he should cause to be buried as invisible signs where boundaries meet." Bṛihaspati[5] says that these should be placed in a vessel and one should keep them underground at the extremities of the boundary, and should take care to point them out to youths and infants. Those youths and infants again should show them to their own children after having grown old. By knowledge thus passed from generation to generation doubts regarding boundaries may be obviated. Manu[6] lays down, "By these signs, by long continued possession, and by constantly flowing streams of water the king shall ascertain the boundary (of the land) of two disputing parties."

The inscriptions of our period sometimes take care to specify the boundary marks in minute details. Thus in the Santa-Bommali plates[1] of Indravarman, the boundary of two *halas* of land is demarcated in the following way : "on the north, the storm-water channel of the tank (called) *kshatriya-taṭāka* ; on the east, an *arjuna* tree, after that a row of ant-hills, then up to the artificial line of heaped-up stones, then a *nimba* tree ; on the south, the same channel of the said tank ; on the west, a well, then the twin *arjuna* trees, then the royal road." In the same way a copper-plate grant[2] of Devendravarman describes the boundaries of a gift-land as follows : "In the north-west corner a stone ; in the east a ... *karaka* tree ; thence to the east of the *chheda* the trench running towards the south ; then a stone and (then) another stone ; to the south of it, in the south-east corner a stone ; to the west of it tamarind trees ; thence to the west, in the south-west corner, a stone ; (then) after that stones in constant succession ; then at the foot of the bund (*pali*) of the tank, a stone." The boundaries of 200 *nivartanas* of land, as mentioned in a charter[3] of Vishṇugopavarman, are indicated by the edge of the boundaries of the neighbouring villages, river banks, rocks and tamarind trees. Sometimes simply the villages surrounding the land were mentioned as boundaries.[4] But the latter method was generally applied to specify the boundary of the villages. Thus, referring to the boundary of Brahmapuraka, the Siwani plates[5] state that, according to the specification of boundaries, it was on the bank of the river Karañjaviraka to the north of the village Vaṭapūraka, to the west of the village of Kiṇihikheṭaka, to the south of the village of Pravarjjavāṭaka, and to the east of the village of Kollapūraka. The Tirodi plates[6] likewise describe that the village of Kośambakhaṇḍa was bounded on the east by Jamaiī, on the south by Varddhamānaka, on the west by Mṛigasima and on the north by Mallakapedhaka.

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[1] The *Mitāksharā* on *Yāj.*, II. pp. 150-51 ; *Manu*. VIII, 246-48. See also Appadorai, *op. cit.*, Vol. I, p. 94.

[2] XIX, 7-9.

[3] XI, 4-5.

[4] VIII, 249-51.

[5] XIX. 20-22.

[6] VIII. 252.

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[1] *EI*, Vol. XXV, pp. 194ff.
[2] *Ibid.*, Vol. XXXI, pp. 212ff.
[3] *IA*, Vol. V. pp. 50ff.
[4] *EI*, Vol. XV. p. 41.
[5] *CII*, Vol. III. pp. 243ff.
[6] *EI*, Vol. XXII, pp. 167ff.

4. *Grant of Land*

In the *Mahābhārata*,[1] Bhīshma says to Yudhishiṭhira that no king can enjoy happiness if he does not favour the Brāhamaṇas with the grant of horse, cow, maid-servant, bedecked elephant, village, *janapada*, land and house. In another place of the same epic, gift of land is classed among acts of exemplary piety.[2] The *Matsya Purāṇa*[3] states that a man who donates land goes to the land of Śiva in a great *vimāna*. Kauṭilya in his *Arthaśāstra*[4] prescribes that those who perform sacrifices (*ṛitvik*), spiritual guides, priests, and those learned in the *Vedas* should be given *brahmadeya* land yielding sufficient produce and exempted from taxes and fines. The gift of land has been eulogized in many other texts.[5] A passage found in the works of Vaśishṭha,[6] Bṛihaspati[7] and in the *Vishṇudharmottara*, *Matsya Purāṇa*,[8] and the *Mahābhārata*[9] says 'whatever sin a man may commit when in straitened circumstances, he is purified therefrom by making a gift of only as much land as is equal to a *gocharma*.' In order to show the high rewards reaped by the donors of land, Aparārka[10] quotes many verses from the *Vishṇudharmottara*, *Āditya Purāṇa* and *Matsya Purāṇa*. The *Vanaparvan*[11] of the *Mahābhārata* says, "whatever sins a king is guilty of in bringing the earth under his control, all those he gets rid of by performing sacrifices with munificent gifts ; by bestowing on Brāhmaṇas land and cows in thousands, the king becomes free from all sins as the moon is freed from eclipse (*Rāhu*)". The *Anuśāsanaparvan*[12] of this epic likewise echoes the popular sentiment that "gifts of gold, cows and land save even the wicked.'[13]

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[1] *Śānti.*, 12.

[2] *Vana*. 199.

[3] CCXLIII, ll. 17-18.

[4] II. 1.

[5] Kane, *History of Dharmaśāstra*, Vol. II. pp. 858ff.

[6] XXIX. 16.

[7] 7.

[8] Quoted by Aparārka, pp. 369-70.

[9] *Anuśāsana*, 62.

[10] Pp. 368, 370.

[11] Ch. 93.

[12] Ch. 59.

[13] For the merit accruing to gifts in general and particularly to gifts of *brahmadeya* land as quoted in the epigraphs, see Sircar, *Indian Epigraphy*, pp. 176ff.

As in other parts of India, the rulers of South India followed the advice of the lawyers and donated land to the pious Brāhmaṇas, ascetics and religious institutions. Some of the imprecatory verses of the *Mahābhārata*[1] directed against those who would revoke grants or infringe rights of land once transferred, were also often repeated in the land-charters inscribed on stone or copper-plates.

The form of grants as a rule followed certain well defined rules prescribed in the Hindu law-books, for, as documents conveying the right to property, they were to be legally valid.[2] Generally, (i) the donor's genealogy in the case of royal grants[3] (ii) the person or persons to whom the gift was made,[4] (iii) the nature of the grant, including its boundaries and condition[5] (iv) the date of the document[6] (v) imprecation on violation of the grant,[7] and (vi) the name of the person who drew up the document, and attestation of witnesses,[8] were the clauses to be inscribed in grants. As the gift of land was generally irrevocable the donees had to preserve the charters recording such grant carefully so that it could be exhibited from generation to generation to prove their title over the donated area. In case the charter was lost accidentally the donee or his successor could get a fresh deed if his right over the holding was beyond doubt. One such case is recorded in the Kurud plates[9] of Narendra which state that a village was previously granted by the deceased father of Narendra to one Bhāśruthasvāmin and was registered by a charter written on *tāla* leaves. This charter was burnt in course of a conflagration in the donee's house ; but it was ascertained by the secretariat that the village continued to be enjoyed by the donee. King Narendra therefore reissued the charter now incised on copper plates confirming the earlier grant and allowed Śankhasvāmin, son of Bhāśrutasvāmin, to enjoy the same holding.

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[1] XIII. 62 ; V. 36.

[2] Burnell, *South Indian Palaeography*, pp. 95ff.

[3] *Yāj*. I, 319 and Vijñāneśvara's comment on it.

[4] *Cf. loc. cit.*

[5] *Cf. Ibid.*, I, 320.

[6] *Cf. loc. cit.*

[7] Cf. Aparārka, pp. 579f.

[8] *Cf. loc. cit.*

[9] *EI*, Vol. XXXI, pp. 263ff.

The grants made by the kings usually consisted of a village or a plot of land. An examination of these grants, however, reveals that the rights and privileges of the donee of a village or an inhabited area were quite different from that of the donee of small plot of cultivable land. The Sātavāhana monarchs sometimes granted land together with certain *parihāras* which included *a-prāveśya* (*i.e.* freedom from the entry of royal agents), *anavamarśya* (*i.e.* freedom from troubles associated with the visit of royal agents), *a-lavaṇa-khātaka* (*i.e.* freedom from the land being dug out or the trees being pierced for salt) and *a-rāshṭra-sāṁvinayika* (*i.e.* freedom from the administrative control to which the district was subject). Occasionally the expression *sarvajāta-bhoga-nirasta* was used to mean the renunciation of all kinds of royal right.[1] In later period the *parihāras* enjoyed by the donee were recorded more clearly. As an example we may cite here the evidence of the Tirodi plates[2] of Pravarasena II in which the following *parihāras* are mentioned : "no payment of taxes ; no interference by soldiers and umbrella-bearers ; no obligation regarding the supply of cows and bullocks in succession ; no state royalties on flowers and milking, no pasturage by state cattle, no obligation regarding the supply of hide and charcoal, no digging out of salt and other moist substances and exemption from forced labour." The grantees are further allowed to enjoy in the same record hidden treasures and deposits, and fixed and unfixed taxes on tenants. It is significant that these charters concerning the grant of villages, while referring to the transfer of such comprehensive rights over the whole village, do not say that the donees had any right to appropriate the village land. Evidently the donees were not authorised to interfere in the enjoyment of the peasant-freeholders of their respective land-holdings. Bose[3] is, therefore, fully justified when he concludes that the assignment is only of revenue and of ownership and usufruct when villages are disposed of along with tillers and their holdings. This statement is also corroborated by the inclusion in many records of a clause enjoining upon the holders of the gift land to pay the donees whatever dues they could legally claim as rent or taxes (*pratyāya*), produce of the fields (*meya*), etc. The Vilavatti inscription[1] specifically mentions that whichever taxes were payable to the king by the dwellers of Viḷavaṭṭi, since made a *brahmadeya*, should be surrendered to the donee.

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[1] See Sircar, *op. cit.*, p. 390.
[2] *Ibid*, Vol. XXII, pp. 174ff.
[3] *SRENI*, p. 20.

The case, however, was quite different when a small plot of cultivable land was donated. It appears from a Nasik cave inscription[2] that Gautamīputra Śātakarṇi made a gift of some land to certain monks in the sense that the plot was to be appropriated by the grantees. In the same sense Ṛishabhadatta offered a field to the ascetics.[3] The Śaka chief desired that 'from it food will be produced for all the monks, without distinction, dwelling in my cave.' The Urlam plates[4] of Hastivarman warn every villager not to obstruct Jayaśarman in the preservation of his holding consisting of two and a half *halas* of land, which he received from the king as gift. It is unnecessary to multiply illustrations to show that in the case of a small field the grantees were given proprietary right over the gift land. We may assume that in the case of the grant of a village also the donee enjoyed the same right over the state land lying within its boundary.

Generally the lands granted were made rent-free. In order to avoid any confusion in the collection of land-revenue the king took care to inform all concerned of the creation of a rent-free holding in any locality. Aparārka[5] quotes Vyāsa to prove that the royal edict recording a gift of land should be addressed to Brāhmaṇas and other respectable people, to the king's officers, to all house-holders and to all others including Medas and Chaṇḍālas. In the Hirahadagalli plates,[6] the Pallava king Śivaskandavarman announces to the royal princes (*rājakumāra*), generals (*senāpati*), rulers of districts (*rāshṭrika*), customs officers (*māṇḍapika*), local prefects (*deśādhikṛita*) and others, to the free-holders of various villagers (*grāmāgrāmabhojaka*),

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[1] *EI*, Vol. XXIV, pp. 296ff.

[2] *Ibid.*, Vol. VIII, pp. 72ff.

[3] *Ibid.*, pp. 78ff.

[4] *Ibid.*, Vol. XVII, pp. 330ff ; cf. corresponding section in the Achyutapuram plates, *EI*, Vol. III, p. 129.

[5] pp. 580.

[6] Lüder's List, No. 1200 ; *Select Ins.*, pp. 437ff.

vallavas and *govallavas*, ministers (*amātya*), guards (*ārakshādhikṛita*), captains (*gaulmika*), *tairthikas*, *naiyogika*, and all others employed in the service like the *sañcharatkas* and *bhaṭamanushyas*, that he had made a gift of land to certain Brāhmaṇas.

It was the usual custom to request the future rulers to protect the grant.[1] Bṛihaspati, as quoted by Aparārka,[2] says that an edict recording a gift of land should state that heaven would be the reward for the respector of the grant. But the would-be confiscator of the gift-land is condemned in the severest possible tone in the inscriptions and law-books alike.[3] "Hail," an inscription goes on, "May he incur the guilt of the five great sins[4] and be buried in the seventh hell, who injures the gift."[5] The Hirahadagalli plates[6] say, "Now, if anybody, knowing this, proud of being a favourite of the king, should cause or cause to be caused even a little obstacle to the donees, him, forsooth, we shall restrain by punishment. And further I pray to both the future great warriors of our Pallava race who may rule within a period exceeding one hundred thousand years, as well as kings differing from us in descent, saying unto them : 'To him among you blessings, who in his time makes the people act according to the rule...But he who acts contrary to it shall be the lowest of men loaded with guilt of the five mortal sins'."[7] The manner in which a resumption of grant is condemned almost invariably in all land grants raises the suspicion that there was always a fear of the land-grants being revoked.[1]

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[1] Cf. *EI*, Vol. XXIV, p. 52.

[2] P. 579.

[3] See Kane, *op. cit.*, Vol. II, Appendix, pp. 1271ff.

[4] According to Manu (XI. 35), the five great sins are *brahmya-hatyā surāpānaṁ steyaṁ gurv-aṅgana-gamah/mahānti pātakānyahuḥ saṁsargaśchāpi taiḥ saha//*Kullūka interprets *steya* as *brāhmaṇa-suvarṇaharaṇa*, and *guru* as *pitā* and says that *saṁsarga* is for one year only. The *Mbh.* Anuśāsana, 130, 38 also gives a list of the five great sins : *Brahmahā chaiva goghnaścha paradārarataścha yaḥ/aśraddadhānaścha naraḥ striyaṁ yaśchopajīvati//*

[5] *IA*, Vol. X, pp. 991.

[6] *EI*, Vol. I, p. 2.

[7] For instances of this kind see Sircar, *Ind. Ep.*, pp. 176ff.

As we have seen, the inscriptions are almost unanimous in suggesting that the king was not expected normally to confiscate land once granted, though in certain cases he was not bound to honour the grant. Thus Svāmidāsa warns a Brāhmaṇa donee that he would be allowed to enjoy the grant 'so long as he does not transgress the conditions of his *brahmadeya* grant'.[2] The Ilichpur grant[3] of Pravarasena II is more explicit on the point : "And the conditions (of) this (charter) must be observed both by the Brāhmaṇas and by the (future) rulers (of the country). That is as follows : 'The king shall allow (the village to be held) by the (Brāhmaṇas) as long as the moon and sun endure, if they do not commit treason against (his) government which consists of seven essential parts[4] of (successive) kings ; that they are not guilty of offences of slaying Brāhmaṇas, committing theft, adultery, or acts prejudicial to the king (or) engaged in frays with other villages. (But) if the king takes the land from those who act otherwise, (he will) not (be guilty of) theft'." The assumption may not be unwarranted that though not specifically mentioned the imposition of these conditions is implied in the case of every land grant. It appears that the donees also ceased their right over the donated land if they abandoned the same. The Malavalli inscription[5] informs us that a king of the Kadamba family renewed the gift of the villages of Somapaṭṭi, Koṅginagara, Mariyasā, Karppennala, Kunda-Tapuka, Veḷaki, Vegūra, Koṇa-Tapuka, Ekkaṭṭhāhāra and Sahalā to Śrī Nāgatta. The record goes on to say that the necessity of granting the villages for the second time was due to the fact that the ownership of the estate was abandoned. Sometimes the kings are seen abrogating their former grants and making new grants instead, no doubt, for the convenience of the donees. A record[1] of Vāśishṭhiputra Pulumāyi registers the royal order in respect of the grant of a village called Samalipada in exchange for the village of Sudasana for the maintenance of the Buddhist monks residing in a Nasik cave. In another inscription[2] Gautamīputra Śātakarṇi is stated to have given to the ascetics one hundred *nivartanas* of royal land on the limit of the town of Govardhana in exchange for a field in the village of Kakhadī previously granted to them as the field was not tilled nor the village was inhabited.

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[1] Kane (*op. cit.*, Vol. II, p. 863) has cited a number of instances from the inscriptions and the *Rājataraṅgiṇī* (vv. 166-170) showing that inspite of severe imprecations, land donated by former kings was sometimes confiscated by their successors. Paratakam Sadiyan boasts that he performed many gifts of *devadāna* (lands) and restored many *brahmadeya* grants (*SII*, Vol. III, p. 461).

[2] *CII*, Vol. III, No. 5 ; *EI*, Vol. XV, pp. 286ff.

[3] *Ibid.*, pp. 236ff ; *IA*, Vol. XII, pp. 239ff.

[4] The seven essential parts (*saptāṅga*) are sovereign (*svāmin*), ally (*suhṛit*), treasure (*kosha*), territory (*rāshṭra*), fortress (*durga*) and army (*bala*), see *Kāmandaka.*, i. 16 : IV, I ; *Vishṇu.* III, 33 ; *Śukra.* I, 121-22, Cf. also *CII*, Vol. III, p. 242n.

[5] *EC*, Vol. VIII, sk. 264.

The majority of the land grants discovered from the Deccan refer to the donations made by kings or members of the royal family ; but records of endowments offered by members of public are also not absent. Reference may, in this connection, be made to the endowment of certain fields by Vādasirī, daughter-in-law of a householder and banker.[3] Similarly Isipāla,[4] a merchant of Kalyāṇa and Mugudāsa[5] made the gifts of two plots of land in Saphāu and Kaṇhahinī respectively. It is of some importance to note here that while the princely grants hardly fail to record that the gift-land was rent-free no such immunities find mention in the public endowment. The conclusion, therefore, is irresistible that the creation of rent-free holding was not within the jurisdiction of ordinary subjects. This point may be illustrated with a reference to the epigraphs. The Sirsi grant[6] records that a land measuring four *nivartanas*, which was the holding of the king's favourite physician (*priya-vaidya*) Nīlakaṇṭha, was donated by Ravivarman to the temple of Mahādeva. It seems that the land was actually given by Nīlkaṇṭha and at his request it was made rent-free by the king, otherwise we are to believe that the land in question was confiscated from the holding of a man who was not only occupying a high-post (*deśāmātya*), but was also the king's favourite physician. The Mallar plates,[1] however, are clearer on the point. They register the gift of the village of Mokkeppikā by one Vatsa to two Brāhamaṇas named Maheśvarasvāmin and Rudrasvāmin. The record further informs us that the gift was ratified (*anumodita*) and the holding was created rent-free by the king Jayarāja. The householders of the gift village were asked to pay the usual dues to the donees and the future kings were requested to protect the grant. This record thus clearly emphasises the need of royal sanction prior to the creation of any rent-free holding. It is, therefore, intelligible why Haridatta Śreshṭhin requested Kadamba Kṛishṇavarman II to donate the village Kalaṇallūra to a Brāhmaṇa without giving it himself.[2] A grant of the similar nature is to be found in the Siroda plates[3] from the wording of which it appears as if the king proclaims his sanction of a gift made by one Prabhunāga *Bhogikāmātya*, for the acquisition of his own spiritual salvation (*puṇya*). Another grant,[4] likewise, records that king Bhulunda made a *brahmadeya* gift at the request of one Aṁshādhanandi. It is further said that the land consisted of a farm held by one Khuddataka.

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[1] Lüder's List, No. 1124.

[2] *EI*, Vol. VIII, pp. 73ff

[3] Lüder's List, No. 1073.

[4] *Ibid.*, No. 1000.

[5] *Ibid*, No. 1130.

[6] *EI.*, Vol. XVI, pp. 264ff.

The land, made a rent-free holding at the request of an officer or person occupying important position, was no doubt in many cases lying within his fief or estate.[5] In the case of donated land forming part of fiefs, which royal officers of ancient India enjoyed temporarily,[6] the fief holders lost the rent of the land in question so long they remained as landlords. But the king's loss of revenue was greater as the land generally remained rent-free even when the fief reverted to him or was subsequently allotted to some other officer. It, therefore, seems that the occupants of *jagirs* had to compensate the king's loss at least partially for the creation of the revenue-free holdings within their fiefs. Though the records referred to above instead of speaking that the rent-free holding, created by the king in favour of the Brāhmaṇas or religious institutions after receiving compensation merely state that the particular holding was created at the request of a certain officer or some other person, it is probable that most of them were really based on monetary transaction. We have already seen that in ancient India the sale of land was generally represented as gift. Moreover it should be remembered that unless the persons at whose request the state made rent-free holdings paid a price for the purpose no religious merit was to accrue to their credit for, according to an ancient Indian convention, it was believed that five-sixths of the religious merit for the creation of revenue-free holdings would go to the purchaser of the land and one-sixth of it to the king of the country.[1]

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[1] *Ibid.*, Vol. XXXIV, pp. 28ff.

[2] *Ibid.*, Vol. VI, p. 16.

[3] *Ibid.*, Vol. XXIV, pp. 144ff.

[4] *Ibid.*, Vol. XV, pp. 290ff.

[5] For a discussion on the subject see Sircar, 'Creation of Rent-free Holdings,' *EI*, Vol. XXXIII, pp. 50ff. Also *Ind. Ep.*, pp. 114ff.

[6] Cf. T. Watters, *On Yuan Chwang's Travels in India*, Vol. I, p. 177.

The object of the land-grants and the creation of rent-free holdings, according to the epigraphs, was to gain religious merit and increase glory and success of the donor. This declared motive, however, was not always the main inspiration to make endowments of land. The *Arthaśāstra*[2] states that when a king wants to construct villages either on new sites or on old ruins he should grant *brahmadeya* lands free from taxes to pious Brāhmaṇas. The object was definitely that with the nucleus of the Brāhmaṇa settlement would gradually emerge a new village, which would yield revenue in due course. Probably this motive played an important role behind the creation of so many rent-free holdings not only in the Deccan but also elsewhere. In our period, as today, vast areas remained to be reclaimed and this meant a great loss of revenue. The cost of reclamation of such areas was by no means negligible. In order to avoid such expenditure, ancient rulers granted unreclaimed land to enterprising Brāhmaṇas, who could induce others to settle in the neighbourhood. In course of time centering round this area emerged a regularly settled village from which the state collected revenue. Thus by creating revenue-free holdings the kings really increased their own income.

The Sahyādri-khaṇḍa section of the *Skanda Purāṇa* containing a legend about the establishment of a Brāhmaṇa settlement gives some interesting data on the use of peaceful priests for the purpose of reclamation.[1] The legend reads that Mayuravarman imported a number of Brāhmaṇas from Ahichchhatra to settle in his dominions in Goa. The thirty-two villages in which the Brāhmaṇa colonists were settled consisted of a dense, trackless, hilly jungle infested by snakes and tigers and fit only for hardy pioneers. The terrific west-coast monsoon favours a rapid growth of the forest, which no Brāhmaṇa settler could possibly have cleared without a labour supply. In order to solve the problem workers recruited from the aboriginal Gavadas with a few Kunabi and other low-caste peasants were placed at the disposal of the Brāhmaṇa donees. An agreement was reached that the Brāhmaṇas to whom the land was given and the actual workers on the land would share the profit among them. Thus was created a new settlement, where there was once a wild tract, as a result of a wise policy pursued by the reigning king. Though the legend is late its antiquity is suggested by the fact that the tradition, which is still upheld by the Brāhmaṇas, refers the settlement to the mythical Paraśurāma, who created the land (Koṅkan) from the ocean after having annihilated the Kshatriyas no less than twenty-one times.

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[1] Cf. *Select Ins.*, pp. 344 and 348.

[2] II, 1.

It is interesting to note that some medieval grants do not conceal the fact that land was donated with the specific purpose of reclamation. Thus an inscription[2] from Kolar dated 1416 A.D. declares, "We grant to you the tract of land bounded as follows, . . . in which you may cut down the jungle and form fields. And the rice lands under and in the area of the tank which you construct, dividing them into four parts . . . in consideration of your having expended much money of your own and constructed the tank, three parts we grant." The same motive of reclamation was without doubt the guiding factor when a Vākāṭaka ruler donated a village to 800 Brāhmaṇas[3] and when a Pallava prince offered four pieces of *araṇya* land according to *purvabhoga-*

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[1] *The Sahyādri-khaṇḍa*, ch. 30, ed. G. Gerson da Cunha ; cf. also B.A. Saletore, *Ancient Karnataka*, Vol. I, pp. 298ff ; Kosambi, *An Introduction to the Study of Indian History*, pp. 303ff ; Kosambi, 'The village community in the 'Old Conquests' of Goa', *JBU*, Vol. XV, pp. 63ff.

[2] *EC*, Vol. X, Mulbagal 7 ; see also *EC*, Vol. XI, Davanagere 23.

[3] *IA*. Vol. XII, pp. 239ff.

maryādā to a Brāhmaṇa.[1] The Bandora plates record the grant of some forest land and also four batches of workers (*preshya-kula*) for its reclamation. The creation of a new settlement with the help of Brāhmaṇa donees is hinted at the Podagadh inscription.[2] The record contains that the Nala king Skandavarman repopulated the deserted town Pushkari and founded an *agrahāra*, *i.e.* a Brāhmaṇa settlement in the locality. It may be presumed that these Brāhmaṇa settlers in their own interest encouraged new migrants to the said town thereby serving the end of the state.

5. *Some Terms Relating to Land Grants*

(*i*) *Brahmadeya*:

In the inscriptions we frequently meet with terms like *brahmadeya*,[3] *brahmadeya-maryādā*,[4] *brahmadeya-nyāya*[5] and *brahmadijja*.[6] The expression *brahmadeya* also occurs in several instances in the Pali literature. Fick[7] has cited many examples in the Jātakas and *Dīghanikāya*. In the Mayidavolu grant,[8] Śivaskandavarman concedes to the village of Viripāra all the immunities enjoyed by the *brahmadeyas*. The word in question, therefore, signifies a religious donation which implied certain immunities. The *brahmadeya* grants, besides assigning various specific privileges to be enjoyed by the donees, often contain the clause that the grant 'is to last as long as the sun and the moon, etc., shall endure', 'is to be enjoyed in the lineage of the donee's sons and grandsons', and that 'no one is to obstruct the donee in cultivating the land and causing it to be cultivated, the land being assigned in accordance with the usual rules of *brahmadeya*'.[9] Kauṭilya[10] says, 'Those who perform sacrifices (*ṛitvik*), the spiritual guides, the priests, and those learned in the Vedas shall be granted *brahmadeya* lands yielding sufficient produce and exempted from taxes and fines (*adaṇḍakarāṇi*)." In another place he writes[1] that a *daṇḍa* (rod) of 192 *aṅgulas* was used in measuring *brahmadeya* land.

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[1] See Sircar, *Successors of the Sātavāhanas*, pp. 199f.
[2] *EI*, Vol. XXI, pp. 153ff.
[3] *E.g.*, *EI*, Vol. VI, pp. 84, 315 ; Vol. XV, p. 290, etc.
[4] *EI*, Vol. III, p. 143 ; Vol. XV, p. 254.
[5] *Mys. Arch. Surv., A.R.*, 1925, p. 98.
[6] *EC*, Vol. VII, sk. 264.
[7] *The Social Organisation in North-East India*, p. 210.
[8] *EI*, Vol. VI, pp. 85ff.
[9] Cf. *Ibid.*, Vol. XI, p. 222 ; Vol. XV, pp. 286ff.
[10] *AS*, II. 1.

(*ii*) *Agrahāra* :

Agrahāras were generally granted to the Brāhmaṇas when they returned from the *gurukula* after completing studies, in order to help them in settling as *gṛihasthas*.[2] Practically there was no difference between the rights enjoyed by an *agrahārika* and the donee of a *brahmadeya* grant both enjoying a rent-free holding. Thus we read in the Ramatirtham plates[3] that king Indravarman exempted an *agrahāra* from the burden of all taxes and ordered the peasants inhabiting the *agrahāra* to give to the *agrahārika* the customary share of the produce, to perform regularly all their duties, such as conveying message, etc. The reference in some charters to the grants made in accordance with the rule of *brahmadeya-nāya*[4] or *agrahāra*[5] apparently implies the surrender by the rulers of the privileges specified above. Though an *agrahāra* was primarily a rent-free holding in the possession of a Brāhmaṇa, there are occasional references in the epigraphs to *devāgrahāra* (rent-free holding in the possession of a deity)[6] and *vaiśyāgrahāra* (rent-free holding in the possession of a Vaiśya).[7] Usually an *agrahāra* was tax-free ; but, in the Siripuram plates[8], we are told that the village Tontapara was paying tax even when it was an *agrahāra* and that it was later exempted from all kinds of taxes by Anantavarman, king of Kaliṅga.

(*iii*) *Hala-nyāya* :

In the Chendalur grant,[9] it is said that Kumāravishṇu II offered a plot of land as *brahmadeya* to a Brāhmaṇa. The grant was made in accordance with the *hala-nyāya*. It goes without saying that *hala-nyāya* here is used in the sense of *brahmadeya-nyāya*. The term *hala* is sometimes prefixed by such words like *deva* and *bhikshu*. The Peddavegi plates[1] record an order of Nandivarman II regarding the grant of a *deva-hala* to Vishṇugṛihasvāmin. *Devahala* is evidently the same as *devabhoga-hala* of the passage *devabhogahala-varjjam*, which is common in the Pallava grants and has been translated by Hultzsch[2] as "with the exception of cultivated lands enjoyed by temples." Fleet translated the same passage as "with the exception of the plough in the possession of the god", and remarked, "The meaning would seem to be that the grant did not carry with it the right to some cultivated land in the same village which had already been given to the village-god." A similar word is *bhikhu-hala*[3] (*bhikshu-hala*, *i.e.* cultivated land offered to the Buddhist monks) which occurs in the Nasik cave inscription No. 3 and in a Karle cave inscription. These technical words signify donations with certain immunities.[4]

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[1] *Ibid* , II. 20.

[2] See Taranatha's *Vāchaspatya*, s.v. ; also Sircar, *op. cit.*, p. 108 and note.

[3] *EI*, Vol. XII, p. 133.

[4] *EC*, Vol. VI, p. 91.

[5] *EI*, Vol. XI, p. 222.

[6] *EC*, Vol. VI, p. 91.

[7] *JAHRS*, Vol. VIII, pp. 180ff ; *JBORS*, Vol. XVIII, pp. 293ff.

[8] *EI*, Vol. XXIV, p. 52.

[9] *Ibid.*, Vol. VIII, pp. 233ff.

(*iv*) *Akshaya-nīvi* :

A Nagarjunakonda inscription[5] appears to say that an *akshayanīvi* grant of a group of five villages was made in favour of some religious establishments. The term *akshaya-nīvi* occurs for the first time in a Nasik cave inscription[6] where it is stated that Ṛishabhadatta made in favour of the Buddhist monks an *akshaya-nīvi* grant of 3,000 *kārshāpaṇas* which were invested in two guilds, *viz.* 2,000 in one and 1,000 in another, and it has been explicitly mentioned that these *kārshāpaṇas* were not to be repaid (*apadidātava*) and that their interest was only to be enjoyed (*vadhi-bhojā*).[7] Amara[8] explains *nīvi* as *paripaṇa* and *mūladhana* (*i.e.* the capital or principal in sale and purchase and such other transactions) while Hemachandra[1] takes *mūladravya* as its synonym. In the light of these two interpretations and that of the Nasik inscription, *akshaya-nīvi* may be explained as "the fixed capital out of the interest (*vṛiddhi*) on which a particular expense is to be made."[2] When used in the context of land grants, *akshaya-nīvi*, therefore, refers to a perpetual endowment which the donee could not destroy (*i.e.* the donee was not allowed to sale, mortgage or lease the donated land) but had to make use of the income accruing from it.

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[1] *Ibid*, p. 165.

[2] *IA*. Vol. V, p. 157 and note.

[3] For a note on *bhikshu-hala* see *EI*, Vol. VII, p. 66.

[4] *Sarvaparihāropetadevabhogahala*. *EI*, Vol. III, p. 146.

[5] *EI*, Vol. XXXIV, pp. 210-11.

[6] *Ibid.*, Vol. VIII, p. 58.

[7] Cf. *akshaya-nīviṁ cha kṛityā māsānumāsikyaḥ vṛiddhyāḥ* (Nagarjunakonda ins. B, *EI*, Vol. XXXV, p. 5).

[8] II. 9, 80.

6. *Land Measures* :

The inscriptions of the Deccan during the period under review reveal the presence of a number of land measures. The area indicated by those measures may sometimes be ascertained with the help of epigraphs and literary works. But it is not safe to understand the same area by the same measure in all places and periods. As an illustration of this fact we may quote the following passage from the *Bombay Gazetteer*.[3] "In Dharwar, as in other parts of the country, the variety of land measures in every group of villages and often in every village caused serious inconvenience in making the revenue settlements ; . . . Some sub-divisions had no fewer than nine land measures. These again varied in almost every village ; and as none of them had reference to any fixed length, there was not one of them that would answer as a standard . . . In 58 of the villages in the Dharwar sub-division the pole or *paṭṭi* was the usual measure, but there was one pole or *paṭṭi* for the black soil, a second for the mixed or *masab* soil, and a third for the *tari* or rice land. Even in black soil the pole or *paṭṭi* varied from twenty-four to forty-eight *kurgis* or drill plough's day's work. From its inherent uncertainty and from the roguery of village officers, the *kurgi* was found to vary from two to eight acres ; its average size was about five acres. In villages where dry and mixed or *masab* lands prevailed, the rod or *paṭṭi* contained two to twelve variable *kurgis*. The rod or *paṭṭi* in *tari* or rice villages was still smaller, containing only two to eight *kurgis* generally of one and a half to four acres." Sometimes attempts were made on the state level to establish some sort of a standard measure and the references to the *rājamāna* in the inscriptions probably bear evidence of such endeavours. But the amount of success attained by the attempts is amply demonstrated by the statement quoted above. We should, therefore, proceed with a note of caution before trying to ascertain the area covered by the different land measures referred to in our epigraphs.

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[1] II. 534.

[2] Jayaswal (*IA*, Vol. XLVII, pp. 50ff) wrongly interprets *nīvi* as 'document' or 'despatch' and *akshaya-nīvi as* 'permanent document'. For a discussion on Jayaswal's view see, R.G. Basak, 'The words *nīvī* and *vinīta* as used in Indian inscriptions,' *IA*. Vol. XLVIII, pp, 13ff.

[3] Vol. XXII, p. 458.

The frequent mention of *nivartana* in the epigraphs from the beginning to the end of our period and even beyond that seems to suggest that it was almost the universally accepted standard of land-measurement in the Deccan. A *nivartana* was probably so called because originally it represented a day's ploughing by a team of eight or six oxen (from the root *vṛit* with the prefix *ni*), measuring the area from which they stopped after a day's work.[1] Baudhāyana[2] says that with six *nivartanas* a Brāhmaṇa can support his family. The area of a *nivartana* differed according to different authorities. In a table of land-measures, Kauṭilya gives the area of a *nivartana* in the following way :

192 *aṅgulas* = 1 *daṇḍa* ⎫ used in measuring such lands
10 *daṇḍas* = 1 *rajju* ⎭ as are gifted to Brāhmaṇas
3 *rajjus* = 1 *nivartana*

An *aṅgula* usually refers to the breadth of the mid-joint of the middle finger of an adult person, which is generally three-fourths of an inch. A *daṇḍa* of 192 *aṅgulas*, therefore, is equal to 12 feet, *i.e.* 8 *hastas* or cubits, a *hasta* being equivalent to 18 inches. Thus one *nivartana* of the *Arthaśāstra* table appears to have been 240 × 240 cubits (about 3 acres). The area of a *nivartana*, however, was somewhat different according to a commentator on the *Arthaśātra*, who by making the *daṇḍa* or measuring rod as equal to 4 cubits indicates that a *nivartana* was 120 × 120 cubits (about 3/4 acre). In the *Śātātapasaṁhitā*[3] the length of a *daṇḍa* is 10 cubits and a *nivartana* is 30×30 *daṇḍas*, *i.e.* 300×300 cubits (about 5 acres). Bṛihaspati[4] also understands the same area by a *nivartana*. But a variant reading of Bṛihaspati's text[1] makes the area of a *nivartana* as 210×210 cubits (about 2¼ acres). The same area for a *nivartana* is also given in the *Matsya Purāṇa*,[2] *Dānasāgara*[3] *and* Dānakhaṇḍa[4] section of the *Chaturvargachintāmaṇi*. Bhāskarāchārya's *Līlāvatī*[5] holds that a *nivartana* is equal to 200 × 200 cubits in area (about 2 acres). The *Śukranīti*[6] gives two different areas of a *nivartana*. Thus it states that while according to both Manu and Brahman a *nivartana* is equal to 25 × 25 *daṇḍas*, the former makes the length of a *daṇḍa* as 5 *karas* (*hastas*) and the latter 4 *karas*. In other words, according to Manu 1 *nivartana*=125×125 cubits (about one acre) and according to Brahman, 100×100 cubits (a little above ½ acre). All these differences were mainly due to the varying length of the cubit and the measuring rod, of which there was no recognised standard.[7] Even in modern times measuring rods are not uniform in all the states. We may note that a Bombay *bighā* (3925 sqr. yds.) is equal to about 2½ Bengal *bighās* (1 Bengal *bighā*=1600 sqr. yds) at the present time.[8] It appears from the *Arthaśāstra*[9] that, in measuring pasture lands, the ground for the encampment of the army, timber forests and *brahmadeya* lands different measuring rods were used.[10]

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[1] Kane, *op. cit.*, Vol. III, p. 145n.
[2] III. 2, 2-4.
[3] I. 17.
[4] Vaṅgavāsī ed, v. 8.

In some inscriptions of Nagarjunakunda[11] the donors claim themselves as givers of many crores of gold, hundred thousands of kine, and hundred thousands of *halas*. Here the meaning of *hala* is not plough as it appears at the first sight, but a measure of land. Originally the word *hala* represented the amount of land that could annually be cultivated with the help of one plough (*hala*). The area of such land necessarily varied according to the quality of soil. In explaining the technical term *kula* in *Manu*. VII. 19, Kullūka observes : *shaḍgavaṁ madhyaṁ halamiti tathāvidha-haladvayena yāvāti bhūmirvāhyate tat kulaṁ iti vadati*. That *hala* here is represented as a recognised kind of land-measure cannot be doubted. It appears from the epigraphic data that it was commonly used in some areas. Thus the Achyutapuram plates[1] of Indravarman refer to the gift of one *hala* of land to a Brāhmaṇa. In the Siddhantam plates[2] also, a Gaṅga king grants one *hala* of land. Similarly, in the Santa-Bommali plates,[3] we read about the donation of two *halas* of land at the village of Hebbata and of another *hala* at Dantayavagu. The Urlam plates[4] record that the Gaṅga king Hastivarman purchased two and a half *halas* of land from the *agrahārikas* residing in the village of Hondevaka. The Bandora plates of Anirjitavarman register the grant of one *hala* of *khajjana* land.[5]

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[1] Cf. Vijñāneśvara's commentary on *Yāj*. I, 210: *sapta-hastena daṇḍena triṁśaddaṇḍairnivartanam*. Also see *Śabdakalpadrumaparishṭa*, p. 160. The *Prāṇatoshaṇītantra*, Vasumatī ed., p. 106, ascribes the verse to the *Svarodayaṭīkākāra*. See *EI*, Vol. XXVIII, pp. 235ff for a discussion on the ancient authorities dealing with the *nivartana* measure.

[2] CCLXXXIII, I. 14.

[3] Ed. Syamacharan Kaviratna, v. 777.

[4] Ed. Bharatachandra Siromani, *Chaturvargachintāmaṇi*, Vol. I, p. 290.

[5] I. 6. See also Barnett, *Antiquities of India*, pp. 218ff.

[6] I, 387-414.

[7] See *Bhārata Kaumudī*, Part II, pp. 943-48.

[8] See *Suc. Sat.*, p. 33n.

[9] II. 20.

[10] Hiralal assumes that a *netana* measure corresponding to about five acres, which was in use in Berar as late as the 19th century, is a corruption of the old *nivartana*. See *EI*, Vol. XI, p. 280n.

[11] *EI*, Vol. XXI, p. 62 ; Vol. XXXIV, pp. 19, 22 : Vol. XXXV, p. 3.

A clue to determine the approximate area understood by a *hala* is provided by the Sunaka grant[6] of the Chālukya king Karṇadeva. Lines 10-11 of plate I of this grant record : *Pāilām 12 vahaṁti (tī) hala 4 iti hala chatushṭaya bhūmi*. While editing the charter Hultzsch translated the passage as follows : "*hala* 4 *i.e.* (in words) four ploughs of land carrying (*i.e.* requiring as seed corn) 12 *pāilām* (or 48 sers)." It is further observed that Bühler takes *pāilām* as a Gujarati plural of *pāiluṁ* which seems to be identical with the modern *pāyalī* 'a measure of four sers'.[7] Commenting on Hultzsch's interpretation Padmnanath Bhattacharya writes,[8] "As regards *pāilām*, not only the translation, but also the explanation in the footnote seems to be tentative. Dr. Bühler's identification of it with modern *pāyali* is based on conjecture. Led by such an insecure interpretation of *pāilām* Prof. Hultzsch has translated *vahanti* (*ī*) very curiously, as 'carrying (*i.e.* requiring as seed corn)'. *Vahantī* ought to be translated as bearing (*i.e.*, producing)".

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[1] *Ibid.*, Vol. III, pp. 127ff.

[2] *Ibid.*, Vol. XIII, pp. 212ff.

[3] *Ibid.*, Vol. XXV, pp. 194ff.

[4] *Ibid.*, Vol. XVII, pp. 330ff

[5] *Ibid.*, Vol. XXXIII, pp. 293ff.

[6] *Ibid.*, Vol. I, pp. 316ff.

[7] See Sapurji Edalji, *Gujarati and English Dictionary*, 2nd ed.. s. v.

[8] 'Notes on *Hala* and *Pāilām* in Gujarat c.p. grant' *IA*, Vol. LII, p. 18.

Bhattacharya points out that the *pāilām* measure of corn is found in certain quarters in the district of Sylhet, especially in the great rice-producing pargana of Baniyachang. The table is as follows :

7½ seers (of paddy) = 1 *pūrā*
16 *pūrās* = 1 *bhūtā*
16 *bhūtās* = 1 *pailā*

Unlike Gujarati *ser*—which seems to weigh 1.2 lbs.—the *seer* here is about 2 lbs. and 40 seers make a maund. So that a *pāilā* is $7\frac{1}{2} \times 16 \times 16 \div 40$ seers $= 16$ maunds.

In another place Bhattacharya refers to two c.p. grants[1] of Sylhet where the word *hala* occurs as a measure of land. Even today in Sylhet *hala*—commonly called *hal* is a measure of land. The table given below will show the details :

7 cubits = 1 *nala* (measuring rod)
1x1 *nala* = 1 *rekhā*
4 *rekhās* = 1 *yashṭi*
28 *yashṭis* = 1 *kedāra* (called keyar commonly)
12 *kedāras* = 1 *hala*

So a *hala* is $7 \times 7 \times 4 \times 28 \times 12 = 65856$ square cubits = about 3.4 acres.

In the opinion of Bhattacharya, therefore, one *hala* or 3.4 acres of land may bear 3 *pāilām* or 48 maunds of corn. In other words, the yield of an acre weighs approximately 14 maunds ; but such a low yield cannot be expected in normal circumstances. Again, it is also unlikely that a king should grant almost barren land in order to acquire religious merit. The distance between East Pakistan in which Sylhet is situated, and Gujarat also does not favour the acceptance in identical sense of the measures known under the same name in these two regions. Under these circumstances we cannot agree with Bhattacharya that *pāilām* of Karṇadeva's grant refers to *pāilā* measure of Sylhet.

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[1] *Proc. ASB*, Vol. VIII, p. 188.

Until recently, at Navasari in Gujarat, there was a measure of grain known as *hārā* which was equal to seven maunds. It thus appears that *hala* sometimes signified 'an area which could be cultivated by a *hal* or plough and produced a *hārā* of grain'.[1]

In the Pachar plate[2] of Chāndella Madanavarmadeva 7½ *droṇas* of seed are stated to have been required for sowing 10 *halas i.e.* one *hala* required 3/4 *droṇas* of seed. The Mahoba grant[3] makes five *halas* equal to 60 *vādhas*. At the time of Bhoja Paramāra, a plough cultivated 34 *aṁśas* in Depalpur.[4] In U.P. during the reign of Govindachandra, five *halas* were equal to one *sīra*[5].

It is futile to attempt on the basis of these data to ascertain the area of a *hala* since the different equivalents of the *hala* are not the same in different places. Moreover owing to the nature of the soil the cultivating capacity of a *hala* (plough) differed from place to place. Buchanan[6] observes that one plough cultivates 10 large *bighās* or 5 acres in Dinajpur. According to Hunter[7] a plough cultivated 6 acres in Orissa. In South India one plough-land is about 2½ acres of wet land and 5 acres of dry land.[8] In an inscription[9] of Harsha, reference is made to a measure called *vṛiddhahala* which was apparently larger in area than ordinary *hala*. The *Atrisaṁhitā* speaks of four kinds of *hala*, to be ploughed respectively by eight, six, four and two bullocks.[10] In the Jodhpur plates,[11] we get the *Yugamdharī hala*.

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[1] J.J. Modi, 'A Note on the *Hala* and *Pāilām* measures in Gujarat', *IA*, Vol. LII, p. 249.

[2] *EI*, Vol. X, pp. 44ff.

[3] B.P. Majumdar, 'Measurement of land in Northern India', *PIHC*, 1960, p. 9.

[4] *Loc. cit.*

[5] *Loc. cit.*

[6] *Dinajpur*, p. 234 ; also B.P. Majumdar, *loc. cit.*

[7] *Orissa*, Vol. II, App. II, p. 47 ; also B.P. Majumdar, *loc. cit.*

[8] I am indebted for this information to Mr. N.T. Abraham of St. Xavier's College, Bombay.

[9] *EI*, Vol. II, p. 125.

[10] *Ashṭāgavaṁ dharmahalaṁ shaḍgavaṁ vyāvahārikam/chaturgavaṁ nṛiśaṁsānāṁ dvigavaṁ gavavadhyakṛit//dvigavaṁ vāhayet pādaṁ madhya'ṇam tu chaturgavam/shaḍgavaṁ tu tripādoktaṁ pūrṇāhastvashṭabhiḥ smṛitah//* (*Atri.*, 220-21).

[11] *EI*. Vol. XI, p. 27.

No clue to determine the area covered by the latter measure is offered.

The Penukonda plates[1] of Mādava refer to a measurement known as *kedāra*. The grant records that the king donated 65 *kedāras* of land (*pañchashashṭi-kedāra*) in the Karmaṭuva *kshetra*, which could be sown with 27 *khaṇḍuka*[2] (of seed). We have already seen in Bhattacharya's table that there is a land measure in Sylhet known as *kedāra* or *keyār*. Ray[3] gives another table of land measurement prevalent in Sylhet, which also includes within it the *kedāra* measure. This table is given below :

3 *krānti* = 1 *kaḍā*
4 *kaḍā* = 1 *gaṇḍā*
20 *gaṇḍā* = 1 *paṇa*
4 *paṇa* = 1 *rekhā*
4 *rekhā* = 1 *yashṭi*
7 *yashṭi* = 1 *poā*
4 *poā* = 1 *kedāra* or *keyār* ($=\frac{7}{8}$ *bighā*)

The two tables cited respectively by Bhattacharya and Ray agree on the point that 28 *yashṭis* are equal to 1 *kedāra* or 7/8 *bighā*. It will, however, be unwise to take *kedāra* of the Penukonda inscription to mean exactly the same area without any corroborative evidence.

In the epigraphs sometimes occur a term, *viz*. *paṭṭi* or *paṭṭikā*. The expression ordinarily means 'plate', but in the Halsi grant[4] of Ravivarman *paṭṭi* is used in the sense of 'a piece of land'. The Gorantla plates[5] and the Chandalur grant,[6] however, use the term *paṭṭi* and *paṭṭikā* in the sense of a measure of land. Thus the Gorantla plates record the gift of 800 *paṭṭis* of land at the village of Tāṇlikoṇla. Similarly, the Chandalur grant records that there were 800 *paṭṭikās* of *khās* land at the village of Chandalūra and that the king offered 432 *paṭṭikās* out of that land as a *brahmadeya* to a Brāhmaṇa. In the Gunaigarh plates[1] of Vainyagupta mention is made of a land measure called *pāṭaka* which is made equal to 40 *droṇavāpas*. Sircar[2] suggests that one *droṇavāpa*=16 to 20 *bighās* roughly. According to this estimate, therefore, 1 *pāṭaka*=40×16 or 40×20, *i.e.* about 640 or 800 *bighās*. It is very unlikely that such a large plot of land was meant by the term *paṭṭi* or *paṭṭikā* of our inscriptions. In fact *paṭṭi* of these and other inscriptions of South India is a synonym for Sanskrit *nivartana* meaning 'a measure of land sufficient for a sheep fold.'[3] As has already been observed, the *paṭṭi* measure varied not only in different villages, but also according to nature of soil, and sometimes even in respect of the same soil the measure differed radically.

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[1] *EI*, Vol. XIV, pp. 331ff.

[2] *Khaṇḍuka*, also spelt as *khaṇḍuga*, *khaṇḍika*, *khaṇḍikā*, *khanḍi*, etc., is the Anglicised *candy*, which is regarded as equal to between 800 and 1000 seers. See Sircar, *Indian Epigraphical Glossary*, s.v. *candy* and *khaṇḍika*.

[3] *Bangalir Itihas* (in Bengali), p. 85.

[4] *IA*, Vol. V, p. 28.

[5] *Ibid*., Vol. IX, pp. 102f.

[6] *EI*, Vol. VIII, pp. 233f.

The Adur stone inscription[4] of Kīrttivarman reveals the existence of another measurement. It records that the king granted 8 *mattals* of rice land, by the royal measure to the west of Karmagalur. The expression *mattal* seems to have been identical with *mattar* of later inscriptions which again is the Kannada equivalent for the Sanskrit *nivartana*.[5] A record refers[6] to a *mattar* of 76 *kols* (*rods*) ; but it is idle to expect that this definition of the unit remained the same in different places. The measuring rod (*kol*) itself was not of a fixed length in all parts of the country and all periods of history. Various measuring rods occur in the inscriptions such as *piriya kol*, *kuṛitakunteya kol*, *bheruṇḍa ghale*[7], etc. It is interesting to note that a grant refers to three plots measured in terms of *mattar* by three types of measuring rod. Thus we read in the Saltogi inscription (C)[8] that *Mahāmaṇḍaleśvara* Gov[u]ṇarasa gave to the god Trayipurusha at the *agrahāra* of Pavithage in the 36 (villages of) Bāḍale two hundred *mattars* (measured) by the *Tambala*[9] rod, of cultivated land (*koḍige*) of the (village) ; two *mattars* (measured) by the *magau* (?) rod, of land in Balambuge (?) ; and three *mattars* (measured) by the small rod (*kiṛiya-kolu*) of paddy fields in Siṅganakaṭṭe (near) Makiṛiyinti (?). According to the details given in *ll*.47-50 of an inscription[1] at Balambid, one *mattar* was equivalent to one hundred *kammas* or *kambas* ; but the value of *kamma* has not yet been ascertained.

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[1] *IHQ*, Vol. VI, pp. 137ff ; also *Bangalir Itihas*, pp. 228f.

[2] *Bhārata-Kaumudi*, Part, II, pp. 343ff ; also *Ind. Ep.*, p. 414.

[3] *SII*, Vol. II, p. 350n.

[4] *IA*, Vol, XI, pp. 68ff.

[5] See Sircar, *Ind. Ep. Gloss.*, s.v. *mattar* ; also *SII* Vol. XI, part II, No. 136, text lines 52 & 56.

[6] *SII*, Vol. XI, p. 88.

[7] *EHD*, p. 38.

[8] *EI*, Vol. IV, pp. 65ff.

[9] According to Kittel's *Kannada-English Dictionary*, *Tambala* is another form of *Tamila*.

The Ilichpur plates[2] of Vākāṭaka Pravarasena II record the grant of a *rāja-mānika-bhūmi-sahasrairshṭābhi*. It may appear that *bhūmi* here indicates either a plot of land or the standard land measure. Fleet[3], on the other hand, is confident that *bhūmi* in the grant concerned refers certainly to some land-measure, the value of which is not known. The assumption of Fleet gains further strength when viewed in the context of the Dudia plates[4] of the same king. The plates record the grant, in the Ārammi province or district (*rājya*), of 25 *bhūmis* (of land) at Darbhamalaka, in the Chandrapura *saṁgamikā* to one Yakshārya, and of 60 *bhūmis* (of land) at the village of Karmakāra, in the Hiraṇyapura *bhoga*, to one Kāliśarman. The *bhūmi* measure and its equivalents *bhū* and *bhūmi-shaki* occur in the Chamba inscriptions of the 11th century A.D.[5] From these inscriptions, it appears that a *bhūmi* or *bhū* was divided into 4 *māshakas* or *bhū-māshakas*. As the actual size of a *bhūmi* is not known, it is not possible to determine the area covered by a *bhū-māshaka*.[6]

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[1] *Elliot Ms. Collection*, Vol. I, p. 585.

[2] *IA*, Vol. XII, pp. 239ff; *CII*, Vol. III, pp. 236ff.

[3] *CII*, Vol. III, p. 241n.

[4] *EI*, Vol. III, pp. 258ff.

[5] *ASR*, 1902-3, pp. 255ff; *IA*, Vol. XVII, pp. 7ff. See also Niyogi, *op. cit.*, p. 98.

[6] It has been suggested that *bhūmi* or *bhū* sometimes measured 17 acres in area (*ASR*, 1902-3, p. 250 & n. 5).

3

Revenue System

KAUṬILYA[1] says, "A king with depleted treasury will eat into the very vitality of both citizens and country people." Rudradāman, therefore, had reasons to boast that his treasury overflowed with the excess of gold, silver, diamonds, beryl and jewels from the properly acquired *bali*, *śulka* and *bhāga*.[2] This statement of the Śaka king further shows that the means of filling up the state treasury was the collection of revenue from the subjects. Of course booty gathered in warfare also contributed to the inflation of the royal exchequer.[3]

Ancient Indian economy was primarily based on agriculture and, as such, the bulk of the state income was collected from the cultivators. Referring to the principles which a king should follow in collecting taxes, an ode in the Tamil *Puṛam*[4] says that even though the extent of the land is less than a *mā*, if one would make a ball of dried paddy and continue to offer it to an elephant everyday, it would be possible for him to continue the same for a long time to come. On the other hand, if the extent of the land is more than a hundred *śey*, and if an elephant is allowed to eat of it at its will, the amount of waste caused by the crushing of the grains under its feet will be much more than what it would ordinarily consume. In the same way if an intelligent king gathers moderate and equitable taxes, his treasury will grow a thousand fold and he himself will get recognition and fame. If, on the other hand, the king lacks wisdom and is surrounded by officers who are not versed in the equitable path but support him in whatever way he goes, and levies reckless imposts from his subjects, the state will be reduced to the verge of ruin. Similar sentiments regarding taxation also find expression in the *Arthaśāstra*[1], *Manusmṛiti*,[2] *Mahābhārata*,[3] *Kāmandakīyanītisāra*,[4] *Rājataraṅgiṇī*,[5] etc. In these texts, the king is repeatedly warned against making the burden of taxation unbearable, and is advised to punish royal officers who are guilty of over-collection. Ghoshal[6] summarises the maxims of taxation as prescribed in the law-books as follows :—

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[1] *AS*, II, 1.

[2] *IA*, Vol. VII, pp. 257f.

[3] *Manu*, VII, 96-97.

[4] *Puṛam*, 184 ; V.R. Ramchandra Dikshitar, *Studies in Tamil Literature*, p. 212.

(a) That the taxation should not destroy the substance of the people, but should leave ample margin for their subsistence.

(b) That the taxes should be levied by slow and almost imperceptible degrees and not at all in a lump.

(c) That it would be levied at the time and place most suited for the subject.

The principles of taxation, which the lawyers suggested, appear to have been generally followed by the kings. In a Nasik inscription,[7] a Sātavāhana monarch claims to have 'never levied nor employed taxes but in conformity to justice.' The Junagadh inscription records that Rudradāman reconstructed the embankment of the Sudaraśana lake expending a great amount of money from his own treasure and without oppressing the people of the city (Girinagara) and of the country around it by exacting taxes, forced labour, benevolence and the like.

Sources of Revenue

As we have already observed, the mainstay of state finance was the land-revenue and allied charges. Ghoshal,[8] however, says that neither of the documents of the Sātavāhanas and other South Indian dynasties, *viz.* the early Pallavas, Bṛihatphālāyanas and Sālaṅkāyanas refer to any kind of land revenue. He, therefore, concludes that the king's revenue was derived only from his own allotments in the villages and not from his share of the agricultural produce of the villagers.[1] But such a categorical assertion is difficult to accept. Indeed, the clear reference to *bhāga* in the Junagadh inscription of Rudradāman suggests the currency of the practice of collecting royal share of grain from the cultivators not only in Surāshṭra but also in the Western Deccan which was under the hegemony of the Śakas. It may not be unreasonable to come to the conclusion that *bhāga*, known in western India under the Śakas, was also collected at the time of the Sātavāhanas, if not still earlier. We may refer here to an inscription[2] which registers the assignment of *karukara* and *deyameya* by a Sātavāhana king in favour of certain Buddhist monks. Senart[3] takes the latter term to stand for *dhānya-hiraṇyadeya* of later records and interprets it as the king's share in kind and cash. Attention may also be drawn to an exemption, *viz. sarvajāta-bhoganirasta*, mentioned in a Sātavāhana inscription,[4] which seems to be meaningless unless taken for the renunciation of royal right over the produce of the land. The existence of land revenue in the Deccan during the Sātavāhana period thus seems to be beyond doubt. That *bhāga* was collected also in the southern-most areas of India is indicated in the Saṅgam literature.[5]

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[1] II. 1, 9 ; V.2.

[2] VII. 128f, 139.

[3] Śānti. 71, 87, 88.

[4] V. 84-85.

[5] IV. 447-48.

[6] *HRS*, pp. 22f. See also Kane, *History of Dharmaśāstra,* Vol, III, pp. 184ff.

[7] *EI,* Vol. VIII, Nasik inscription No. 2, pp. 60ff.

[8] *The Agrarian System of Ancient India*, pp. 35ff.

The king's share of the produce was 1/6 according to Kauṭilya.[6] This rate (*shaḍ-bhāga*) is recommended in many other texts.[7] But the late *Śukranīti*[8] thinks that *bhāga* should be 1/6, 1/4, 1/3, or 1/2 according to the nature of the soil, rainfall and irrigation facilities. Kauṭilya[1] also seems to have supported different rates for he enjoins on the *gopa* (village headman and accountant) that he should enter upland (*sthala*) and low land (*kedāra*) in his field-register as separate items. Commenting on this passage, Ghoshal[2] observes, "This would be meaningless if the two classes of soils here mentioned were not assessed for the land-revenue at different rates." It is significant that, according to Manu,[3] the king should have sixth, eighth or twelfth part of the crops (*dhānya*). In the same way, Gautama[4] says that the husbandmen should surrender to the king 1/10, 1/8 or 1/6 of their produce. In the *Agni Purāṇa*[5], the rates for different kinds of paddy crops vary from 1/6 to 1/8. The *shaḍbhāga* thus appears to have been the original standard rate and 'not the fixed or universal rate,' the assessment varying according to the quality of the soil and the nature of the crops.[6]

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[1] *Ibid.*, p. 35.

[2] *EI*, Vol. VII, Karle inscription No. 14.

[3] *Ibid.*, Vol. VII, pp. 61f.

[4] Sircar, *Indian Epigraphy*, p. 390.

[5] Cf. *Puṛam*, 17 ; *Kuṛal-veṇbā*, 756 ; also Ramchandra Dikshitar, *op. cit*, p. 209.

[6] *AS*, II. 15.

[7] *Nār.*, XVIII. 48 ; *Vishṇu*, III, 11 ; *Baud.*, I, 10, 18, 1 ; *Vaś.*, I. 19 *Parāśara*. II. 14 ; *Mbh.*, *Śānti*, 69, 71 ; *Mārk.*, XVIII, 3-8 ; *Kuṛal* (*Puṛam*. 17) ; *Perapporul Veṇbāmāli* (*Kuṛal-veṇbai*, 756), etc.

[8] IV, ii, 227-30.

In the epigraphs we sometimes meet with the expression *bhāga-bhoga* and its variant *bhoga-bhāga*.[7] Fleet suggests that the term *bhāga-bhoga* may perhaps be considered as one fiscal expression indicating "enjoyment of taxes"[8] for its literal meaning is 'enjoyment of shares'[9]. Sircar,[10] however, takes *bhoga* as distinct from *bhāga* and explains it as the periodical supplies of fruits, firewood, flowers, etc., which the villagers had to furnish to the king. In the Kurud plates[11] *bhoga-bhāga* is distinguished from *dhānya* and *hiraṇya*. In this case *bhoga-bhāga* may mean a fixed contribution in kind as distinguished from the contribution consisting of a share of the produce.[12] Alternately *bhogabhāga-dhānyahiraṇya* may stand for *dhānyahiraṇya* in the form of *bhogabhāga*.

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[1] *AS*, II, 35.

[2] *HRS*, p. 35.

[3] VIII, 130.

[4] X. 24.

[5] CCXXIII. 26f. Under the Mauryas the husbandmen had to surrender 1/4 of the produce, a rate sufficiently higher than the prescribed standard.

[6] See *SRENI*, p. 119 ; cf. also *AS*, V. 2.

[7] *EI*, Vol. XXXI, p. 264 ; Vol. XXXIV, p. 114.

[8] *CII*, Vol. III, p. 254n.

[9] *Ibid.*, p. 120n.

[10] *Select Ins.*, p. 372n.

[11] *EI*, Vol. XXXI, p. 264.

[12] Sircar, *Indian Epigraphical Glossary*, p. 48.

Like *bhoga* the collection of *bali*, another important source of income, is inferred from its occurrence in the Junagadh inscription. Amarasiṁha[1] makes *bali* identical with *bhoga* and *kara*. In the law-books also a confusion between *bhāga* and *bali* may be traced. Thus *bali* as fixed at the uniform rate of 1/6 by Vaśishṭha,[2] Vishṇu,[3] Manu[4] and the Mahābhārata[5] corresponds more to *bhāga* than to any other levy. Gautama[6] appears to have suggested different rates of *bhāga* with respect to good, intermediate and bad soils or according to the nature of the products when he said that the husbandman should submit 1/6, 1/8 or 1/10 to the king as *bali*. *Bali*, however, is mentioned as distinguished from other taxes in the *Arthaśāstra*,[7] Rummindei pillar inscription[8] of Aśoka as well as the Junagadh inscription of Rudradāman. Shamasastry,[9] Thomas[10] and following them Maity[11] interpret *bali* as a religious cess. According to Maity, it is mentioned in many inscriptions along with *charu* and *sattra* ; but *bali* referred to as tax cannot be identified with *bali* mentioned along with *charu* and *sattra*, because in the land grants, the kings are stated to have granted the donees the right to collect revenues with the express object of maintaining *bali*, *charu*, *sattra*, etc. Had *bali* been a religious cess, the kings would have granted in these records the right to collect *bali* instead of saying that the donees were given the right to enjoy royal revenues like *bhāga*, *kara*, etc., for the maintenance of *bali*, *charu* and *sattra*. It may also be pointed out that if *bali* was a religious cess then a king especially a pious king like Rudradāman was expected to reserve its use for religious purposes without having his treasury overflowed with it.[1] Ganapati Sastri in his remarks on the *Arthaśāstra*, II. 15 identifies *bali* with the so-called begging receipts of the king. Commenting on another passage of the same text,[2] he more explicitly defines *bali* as *upahāro bhikshā vā*. In the Sabhāparvan[3] of the *Mahābhārata bali* occurs as the customary present to be given to the king at the time of his coronation ceremony. In the *Milinda-pañha*,[4] *bali* is an emergency tax not to be levied from four ministers (*mahāmātta*). In the Jātakas,[5] it is an expression applied to additional and oppressive taxes. Kshvīrasvāmin[6] defines *bali* as a means of subsistence of the king's officials. Ghoshal,[7] therefore, takes *bali* as an undefined cess over and above the king's normal share of the produce (*bhāga*). This view seems to have been confirmed by Bhaṭṭasvamin, who explains *bali* in the *Arthaśāstra* as a local tax of 1/10 or 1/20 above the regular 1/6.

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[1] II. 8, 28 ; cf. also *The Vaijayantī* of Yādavaprakāśa (ed. G. Oppert). pp. 45, 107.

[2] 1, 42.

[3] III. 11.

[4] VIII. 308.

[5] XII. 69, 71 etc.

[6] X. 24.

[7] II. 6, 15.

[8] *CII*, Vol. I, p. 164, *l*.4.

[9] *Kautilya's Arthasastra*, pp. 58 etc.

[10] *JRAS*, 1909, p. 467.

[11] *The Economic Life of Northern India*, p. 61.

The Junagadh inscription and several epigraphic records of the Deccan refer to another tax called *kara*. Though *kara* is used in the general sense of a tax in the lexicons and Jaina canonical literature,[8] it occurs as the designation of a specific

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[1] Maity apparently ignored Nilakanta Sastri's comment on Thomas' view regarding *bali* where it has been observed, "Kālidāsa in his celebrated line in the *Raghuvaṁśa*, *prajānāmeya bhūtyarthaṁ sa tābhyo balimagrahīt*, uses the word *bali* in the sense of tax, and this is the meaning which the old lexicons and modern dictionaries give. There is of course, an analogy between the *bali* offering to gods and other beings, and the tax or tribute to the king, particularly as the king is often thought of as god, and that is most probably the semantic reason why the word bears both senses. But what was excused to the Lumbini *grāma* was no specialised cess of a religious nature, but the general tax due from the village" (*IHQ*, Vol. XX, pp. 25f.).

[2] II. 6.

[3] LVIII. 48.

[4] *SBE*, Vol. XXXV, p. 208.

[5] I. 199, 339 ; V. 98. See also Ghosal, *The Agrarian System of Ancient India*, p. 25.

[6] Comm. on *Amara*, II. 8.28.

[7] *HRS*, p. 36. According to Megasthenes, husbandmen paid, in addition to the grain-share (*bhāga*), a land tribute which seems to correspond to *bali* (See Sircar, *Ind. Ep.*, p. 389n).

[8] A text quoted in the Jaina lexicon *Abhidhānarājendra* (s. v. *Kara*) gives a list of 16 taxes under the heading *kara*. The expressions *sarvakarapīḍāvarjita* and *sarvakarasameta* in the Sumandala plates (*EI*, Vol. XXVIII, pp. 79ff) and Mallar plates (*EI*, Vol. XXIII, pp. 173ff)

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tax in the *Arthaśāstra*[1] and the *Manusmṛiti*.[2] On the basis of the different interpretations of the word *kara* offered by the commentators on the latter work, Ghoshal[3] takes it to mean a periodical tax levied more or less universally on villagers. Shamasastry, however, offers two explanations of the term in his translation of the *Arthaśāstra*. Thus in one place[4] he interprets *kara* as 'taxes paid in money' and in another place[5] as 'taxes or subsidies that are paid by vassal kings and others'. Ganapati Sastri, on the other hand, explains *kara* as 'taxes levied upon fruit-trees'. To Bose[6], *kara* seems to be an annual tax on property. This is also the view of Ghoshal[7] who interprets *kara* as 'a general property tax levied periodically'. Ghoshal[8] further suggests that since Rudradāman claimed to have rebuilt the lake Sudraśana draining his own treasury and without oppressing his subjects by exacting *kara*, *vishṭi* and *praṇaya*, *kara*, like *vishṭi* and *praṇaya*, appears to have been an irregular and oppressive impost levied only when there was emergency. But it is doubtful whether *kara* in Rudradāman's record refers to a specific emergency impost of an oppressive nature. In the present case it may imply tax in general and as such the term does not find mention along with *bhāga*, *bali* and *śulka* in the same record.

Uparikara, which is listed as a tax in the spurious copper plate grant of Pulakeśin I,[9] Betul plates of Saṁkshobha[10] and many contemporary records outside our region, has been explained by Fleet[11] as 'tax levied on cultivators who have no

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respectively seem to have given a wider meaning to *kara* than a specific tax. The word *kara* has been explained by a commentator as *kṛishi-paśuchāran-ādi-kṛita-rāja-kiya-bhūmy-upabhogha-hetuko rājagrāhyo bhāgaḥ* (see Sircar, *Op. cit.*, p. 389n).

[1] II. 6, 15.

[2] VIII. 307.

[3] *The Beginning of Indian Historiography and other Essays*, p. 174.

[4] *Kautilya's Arthasastra* (Trans., R. Shamasastry, 5th ed), p. 58.

[5] *Ibid*, p. 99.

[6] *SRENI*, p. 127.

[7] *HRS*, p. 36.

[8] 'Some Hindu Fiscal Terms Discussed', *PAIOC*, 1928, p. 208.

[9] *Sir Walter Elliot Ms. Collection*, Vol. I, p. 9 ; *IA*, Vol. VII, pp. 209ff.

[10] *EI*, Vol. VIII, pp. 284ff.

[11] *CII*, Vol. III, p. 98n.

proprietary right in the soil'. Ghoshal[1] interprets *uparikara* as an impost levied on temporary tenants since *upri* in Marathi means the 'cultivators not belonging originally to a village, but residing and occupying land in it either upon a lease for a stipulated term of years, or at the pleasure of the proprietor.'[2] Commenting on Ghoshal's observation Barnett[3] says that *uparikara* is something like "the Tamil *melvaram*, *i.e.* the Crown's share of produce ('*mel*'=*upari*)", but *bhāga*, which generally denoted the king's grain share, is frequently mentioned together with *uparikara*. As such *uparikara* cannot be taken to mean 'the crown's share of produce.' Sircar[4] refers to the fact that in Sanskrit, Bengali and Hindi *upari* or *upri* means 'upon' or 'extra' and suggests alternatively that *uparikara* may be taken to mean an 'extra-cess' which was collected over and above *kara*. Gupta[5] also identifies it with 'cess'. Mirashi[6] while observing that *uparikara* was an additional tax, suggests that it may have included the miscellaneous taxes in kind which traders and artisans had to pay. But at the present state of our knowledge it will be somewhat rash to conclude that *uparikara* was collected only from the traders and artisans.

In a Karle cave inscription[7] *Mahāraṭhi* Somadeva is stated to have granted a village to the community of Buddhist monks of Veluraka together with *karukara* and *deyameya*. Senart[8] thinks that the expression *sakarukara* in this inscription is a natural equivalent for *sodraṅgaḥ soparikaraḥ* of the later inscriptions. Taking *udraṅga* to mean taxes on permanent tenants and *uparikara* taxes on temporary tenants, Ghoshal[9] explains *sakarukara* as 'together with the taxes on permanent as well as temporary tenants'. He further says that though Senart is not quite positive about his interpretation of *sakarukara* "there is nothing improbable in the *udraṅga* and *uparikara* taxes going back to the Sātavāhana period." Leaving aside the conjectural nature of Senart's translation it may be pointed out that *uparikara*, as we have seen before, probably does not mean taxes on temporary tenants, and *udraṅga*, as we shall presently see, cannot be interpreted as taxes on permanent tenants. In fact *sakarukara* is a variant of *sakārukara* in which *kārukara* is the same as *kārudeya*, a tax on the artisans.[1]

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[1] *HRS*, p. 210.

[2] Wilson, *Glossary of Judicial and Revenue Terms, etc.*, s. v. *Upari*.

[3] *JRAS*, 1931, p. 165.

[4] *Select Ins.*, p. 266n. Dowson (*JRAS*, 1865, p. 284) also takes *upari* in the sense of "above, upon" and suggests that *sodraṅga soparikara* may be the ancient representative of the technical terms *jalkar* and *bankar*, "rights over water and wood."

[5] *Land System in South India*, p. 169.

[6] *CII*, Vol. IV, pp. CXLIff.

[7] *EI*, Vol. VII, Karle inscription no. 14.

[8] *Ibid.*, Vol. VII, pp. 61f.

[9] See *HRS*, p. 189.

About *sadeyameya*, Senart[2] translates it as 'together with what has to be given and what has to be measured' and suggests that the expression may stand for *sadhānyahiraṇyadeya* of the later inscriptions, *i.e.* 'what is measured,' meaning the dues in kind which were levied on the produce of the fields, and 'what is given or paid directly,' the taxes in money.

Another fiscal term *antaḥkara* (also spelt as *attemara*) finds mention in the inscriptions.[3] We may compare it with *antar-āyam*, 'internal revenue' and its counterpart *purav-āyam*, 'external revenue' occurring in later Tamil inscriptions.[4] *Antaḥkara* is also variously mentioned as *abhyantar-ādāya*, *bāhyābhyantar-ādāya*, *abhyantara-siddhi*, etc.[5] It probably implies taxes payable to the village authorities as against those payable to the king.[6]

In the spurious copper plate grant of Pulakeśin I, *udraṅga* occurs as a source of revenue. The term also appears in the Betul plates[7] of Saṁkshobha. Bühler[8] refers to the *Sāsvatakosha* explaining *udraṅga* as *udhhāra* and *udgrantha*, and doubtfully interprets it as 'the share of the produce collected usually for the king.' Ghoshal,[9] on the other hand, suggests for *udraṅga* the meaning of revenue collected from the permanent tenants in contra-distinction to *uparikara* which he interprets as a similar impost levied from temporary tenants. In support of this interpretation he argues that Marathi *udhāṛ* means 'in the gross,' and *udhāṛ jamābandi* means 'assessing the total revenue of a village upon the chief proprietor, leaving it to him to distribute the proportions.' But Ghoshal's explanation of *udraṅga* seems to be unsatisfactory. In the inscriptions, the term generally occurs along with *dhānya*, *hiraṇya* and other imposts.[1] If *udraṅga* was used to mean revenue on permanent tenants in general, then the mention of *dhānya* and *hiraṇya* by its side becomes redundant. In fact *udraṅga* is a separate levy though its meaning is not known to us. It is not unlikely that *udraṅga* is connected in one way or other with the expression *drāṅgika* mentioned in the Maliya grant[2] as a royal officer. *Draṅga* is used in the *Rājataraṅgiṇī*[3] in the sense of an interior post for the collection of duties. We shall not probably be far from truth if we suggest that the duties, which the officers stationed in the *draṅgas* collected, were known as *udraṅga*.[4]

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[1] Sircar, *Indian Epigraphical Glossary*, p. 149f.

[2] *EI*, Vol. VIII, p. 62.

[3] *Ibid.*, Vol. VI, p. 12 ; *EC*, Vols. IV, p. 130 ; VI, p. 91.

[4] Eg. *SII*, Vol. III, No. 61, text *ll.* 5f.

[5] Sircar, *Indian Epigraphical Glossary*, p. 22.

[6] *Loc. cit.*

[7] *EI*, Vol. VII, pp. 284ff.

[8] *IA*, Vol. XII, p. 189n.

[9] *HRS*, p. 210.

The Vākāṭaka kings sometimes granted land together with *kḷipta* and *upakḷipta*.[5] According to Kauṭilya,[6] *kḷipta* was one of the seven *āyamukhas* (the mouths from which income was to issue). Shamasastry translates it as a fixed tax. Ghoshal[7] also interprets *kḷipta* as fixed tax and *upakḷipta* as unfixed tax. According to Mirashi,[8] the expressions *kḷipta* and *upakḷipta* correspond to the terms *bhāga* and *bhoga* which occur in the almost contemporary records of the kings of Sarabhapura and *udraṅga* and *uparikara* in those of later kings. In his opinion, *kḷipta* may thus be taken to mean some land tax and *upakḷipta* some petty taxes in kind. Maity[9] thinks that *kḷipta* and *upakḷipta* do not refer to taxes but to some royal right over the land. It is unnecessary to attach any importance to such view for Kauṭilya explicitly describes *kḷipta* as a source of state revenue while

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[1] Eg. *CII*, Vol. III, pp. 164ff.

[2] *Loc. cit.* ; cf. also *EI*, Vol. XI, p. 19.

[3] *Baddhvādhikāriṇaḥ śulkaṁ gṛihṇatākāri rājavat tena svanāmnā bhāndeshu draṅge sinduramudraṇam. Rāj*, VIII. 2010.

[4] Sircar, *op. cit.*, p. 101.

[5] Cf. *CII*, Vol. III, pp. 236ff. etc.

[6] *AS*, II. 6.

[7] *HRS*, p, 195.

[8] *EI*, Vol. XXII, p. 175 n.

[9] *Op. cit.*, p. 67.

kḷipta-kara and *kḷipta-śulka*, apparently implying 'fixed tax' and 'fixed tolls' are known from the Motupalli inscription.[1]

In the Basim plates,[2] Vindhyaśakti II exempts the donees from the payment of *dhānya* and *hiraṇya*, *i.e.* 'the revenue both in grain and specie.' It goes without saying that *dhānya* in the present context refers to *bhāga* or the king's share. In the *Arthaśāstra*,[3] *dhānya* is used in this sense. As regards *hiraṇya*, *Arthaśāstra*[4] describes it as one of the different forms of payment and enjoins on the *gopa* to enter these taxes (*e.g.*, *dhānya*, *paśu*, *hiraṇya*, *kupya*, *vishṭi* and so forth) separately in his 'pipe roll'. In the *Daśakumāracharita*,[5] the king is advised to receive *hiraṇya* during the fourth hour of the day. *Hiraṇya* means gold, but the same sense is obviously not intended when the term is used in the inscriptions. Ghoshal[6] observes that from its occurrence in the Smṛiti texts along with *paśu* (domestic animals) and with the crops, trees, fruits, flowers, leaves, grass, etc., which were the recognised sources of the king's revenue, it appears to belong to the group of taxes on agricultural and industrial products of the village. In that case, it is extremely unlikely that a state collected part of its normal revenue in gold. In the Mallasarul grant[7] mention is made of an officer called *Hiraṇya-samudāyika* who was apparently connected with the collection of *hiraṇya*. It is not expected that a special officer was engaged to collect *hiraṇya* if it was 'gold'. That the term was not confined to the sense of gold only is evident from the expression *rajatam hiraṇyam* in the *Śatapatha Brāhmaṇa*.[8] The *Dīghanikāya*[9] describes how Mahāsudarśana made arrangements for providing the needy persons with food, drink, clothing, card, *śayana* (probably cot for reclining), maiden, *hiraṇya* and *suvarṇa*. In the *Mahābhāshya*,[1] it is used specifically in the sense of cash. It may be assumed that in the latter sense the term is used also in the inscriptions. In this connection we may refer to the Madanpara plates[2] of Viśvarupasena and the Mehar plates[3] of Dāmodaradeva which indicate the precise nature of *hiraṇya* clearly. The former inscription while recording a grant of land refers to its annual income as : *sāṁ-śāsanabhū-hi* 627. Sircar[4] takes this phrase to stand for *sāṁ-vatsarika-śāsanabhūmi-hiraṇya* 627 (*i.e.*, the annual revenue income of the gift land in coins or cash is 627 *purāṇas*). In the latter grant also we find a similar composite contraction like *sāṁ-hi* which stands for *sāṁvatsarika hiraṇya* (*i.e.*, annual coin or cash). It may be pointed out that this contraction *viz*, *sāṁ-hi*, which indicates the annual revenue income of a piece of land in cash, is invariably followed by the number of *purāṇas* to be paid annually as rent.[5] In all probability, this cash payment was made in lieu of payment in kind, the peasants being given at least in some cases a free choice between the two.[6] Ghoshal draws our attention to a custom in the medieval period when, in spite of the custom of payment of land revenue in kind, certain classes of crops (called by the title of *zabt*) were always assessed in cash on the ground that it was very difficult to divide them into shares. *Hiraṇya*, in his opinion, was like *zabt*, a tax in cash levied upon certain special kinds of crops as distinguished from the tax in kind which was charged upon the ordinary crops. The evidence of the Madanapara and Mehar grants, however, suggests that *hiraṇya* was not a tax of the nature of *zabt*, but as said above it was a tax in cash collected sometimes in lieu of the grain-share.

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[1] *EI*, Vol. XII, pp. 193 and 195.

[2] *Ibid.*, Vol. XXVI, pp. 137ff.

[3] II. 35.

[4] *Loc. cit.*

[5] Ch. VIII; Kale's trans., p. 145.

[6] *HRS*, p. 61.

[7] *EI*, Vol. XXIII, pp. 155ff.

[8] XII. 4, 4, 7 ; Allan, *Catalogue of the Coins of Ancient India*, Intro., LXXIV.

[9] *annaṁ annatthikassa pānaṁ pānatthikassa vatthaṁ vatthatthikassa yānaṁ yānatthikassa sayanaṁ sayanatthikassa itthiṁ itthikassa hirañjaṁ hirañjatthikassa suvaṇṇaṁ suvaṇṇatthikassa. Dīgha*, II. 4, 10, 14 (P. T. S. ed., Vol. II, p. 180).

In the land grants, we find very frequently that the donees are exempted from *veṭṭhi* or *vishṭi*, *i.e.* forced or unpaid labour.[7]

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[1] Cf. *dvidroneṇa hiranyena dhānyaṁ krīṇāti*, *Mahābhāshya*, II.2.

[2] *JAS, Letters*, Vol. XX, 209ff.; *EI*, Vol. XXXIII, pp. 315ff.

[3] *EI*, Vol. XXVII, pp. 182ff.

[4] *JAS, Letters*, Vol. XX, p. 216.

[5] *EI*, Vol. XXX, p. 55.

[6] Cf. Sircar, *Ind. Ep.*, p. 129 ; also cf. *kāśāyavarga*, *i.e.* tax in cash, as opposed to *dhānyavarga*, *i.e.* tax in kind, in the inscriptions.

[7] See R. K. Choudhary, '*Vishṭi* (forced labour) in Ancient India', *IHQ*, Vol. XXXVIII, pp. 44, 52ff.

According to Kauṭilya,[1] the *gopa* should enter in his register of houses the contribution in cash, free labour, tolls and fines. Ghoshal[2] thinks that *vishṭi* was imposed specially, if not exclusively, upon the villages and was assessed on some principle of rating according to houses. He also refers to a passage, attributed to Śaṅkha and Likhita and quoted by Chaṇḍeśvara in his *Vivādaratnākara*,[3] according to which the towns were exempted from the dues for unpaid labour (*vaishṭika*) and dues for service as messengers (*jāṅghika*). But the statement in the Junagadh inscription that Rudradāman reconstructed the Sudarśana lake without oppressing people of the town and of the province by means of forced labour, etc. implies that towns were not always exempted from *vishṭi*.

According to the *Mahābhārata*,[4] forced labour is to be exacted from the artisans only, but they are to be provided with food. Manu[5] and Vishṇu[6] say that the artisans, who live on physical labour and Śūdras are to render service to the king. Gautama[7] enjoins on persons carrying on independent business like the artisans, boatmen, potters (? *chakrivat*) torender service to the state in return for daily meals. The supply of food to those from whom forced labour is to be exacted is also prescribed in the *Agni Purāṇa*.[8]

In the *Arthaśāstra*, mention is made of the employment of *vishṭi* or free labourers in the state workshops.[9] The same text further says, "Sweepers ; preservers ; those who weigh things (*dharaka*); those who measure grains, etc., those who supervise the work of measuring grains (*māpaka*) ; those who supervise the supply of commodities (*dāyaka*) ; those who are employed to receive compensation for any real or supposed error in measuring grains, etc. (*śalākāpratigrāhaka*) ; slaves ; and labourers—all those are called *vishṭi*."[10] The Junagadh inscription indicates that forced labour was used in construction purposes too. Kauṭilya[1] refers to its employment in (*a*) cleaning the camp, the roads, the bridges, wells, and landing stages ; (*b*) carrying machines, weapons, armours, instruments and provisions ; and (*c*) carrying away the wounded soldiers, along with their weapons and armours from the battlefield.

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[1] *AS*, II. 35.
[2] *HRS*, p. 39.
[3] P. 662.
[4] XIV. 95.
[5] VII. 138.
[6] III. 16.
[7] X. 31.
[8] Ch. CCXXIII.
[9] II. 7.
[10] II. 15.

About the working of the system the Jātaka stories give us a graphic picture. Thus a Jātaka[2] tells us how the people of Vārāṇasī were forced to flock to the deer-forest to the detriment of their own business by the king who was passionately fond of hunting. In the introduction to another Jātaka[3] we are told, in the course of interpretation of a king's dream, that "in the days to come the kings" shall set the whole countryfolk, leaving their own work, sow grain and pulse, and keep watch and thrash and garner ; for the king's sake shall they plant sugar-canes, make and drive sugar mills and boil down the molasses ; for the king's sake shall they lay out flower-gardens and orchards and gather in the fruits. And as they gather in all the diverse kinds of produce they shall fill the royal garners to overflowing not giving so much as a glance at their own empty barns at home." Though the latter example illustrates conditions 'in days of moral disorder that would sweep the earth and not in normal times,' yet the oppressive nature of *vishṭi* cannot be doubted.[4] Kauṭilya,[5] therefore, asks the king to protect agriculture from the molestation of oppressive *vishṭi*. In the Smṛitis, referred to above, also no mention of the agriculturists is to be found in the list of persons liable to be the subject to forced labour. R.K. Choudhary[6] refers to an inscription[7] of 6th century A.D. which, while stating that *vishṭi* should be imposed on smiths, chariotmakers, barbers, and potters by the elders, excludes the agriculturists from rendering forced labour.

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[1] *AS*, X. 4.

[2] *Jāt*. I. 12.

[3] *Ibid*., I. 77.

[4] What this objectionable form of exaction could have been in the hands of unscrupulous rulers may be easily intelligible by comparing it with the working of its modern counterpart *begār*, which was until recently a standing complaint of the people in the Hindu States of Rajputana (see *HRS*, p. 40n).

[5] *AS*. II. 1.

[6] *Op. cit*., p. 54.

[7] *JRASB*, Vol. XVI, p. 121.

Praṇaya or benevolence,[1] referred to in the records of the Vākāṭakas,[2] is used in the Junagadh inscription as an emergency levy. Kielhorn[3] explains it as a contribution mainly voluntary (given from affection) but which people feel constrained to make. Kauṭilya advises a king to beg benevolences when he finds himself in great financial trouble and needs, and devotes a whole chapter (*AS*, V. 2) to the manner in which emergency levy should be collected. Benevolence, he suggests, should be exacted from cultivators (*karshakas*), dealers and craftsmen (*vyavahārins*) and breeders of animals (*yoniposhaka*), at the rate given below :—

1. *Cultivators ;*

   1/3 or 1/4 of the grains ;[4] 1/6 of *vanya* (according to Ganapati Sastry 'wild rice' and according to Shamasastry 'forest produce'), cotton, wax, fabrics, barks of trees, hemp, wool, silk, medicinal herbs, sandalwood, flowers. fruits, vegetables, firewood, bamboos, and fresh and dried flesh ; 1/2 of ivory and skins.

2. *Merchants and Craftsmen :*

   (a) dealers in gold, silver, diamonds, houses and elephants —50 *karas*[5]

   (b) dealers in cotton threads, clothes, copper, brass, bronze, sandalwood, medicines and liquor—40 *karas*

   (c) dealers in grains, liquids, metals (*loha*) and carts —30 *karas*

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[1] For a detailed discussion on emergency revenue see *HRS*, pp. 125-135.

[2] Eg., *EI*, Vol. XXVI, pp. 137ff. ; *IHQ*, Vol. XVII, pp. 110ff.

[3] *EI*, Vol. VIII, p. 6.

[4] Manu (X. 118) does not allow a king, even in distress, to exact more than 1/4 of the crops. From the Vaiśyas, according to Manu (X. 120), he should receive 1/8 of the grains. It is not clear to us whether the passage refers to the tax on dealers in corn in emergency or to the normal *bhāga* which was also levied on Vaiśya farm-owners. If the latter is indicated then the Vaiśyas were placed in a privileged position.

[5] A *kara* seems to mean 10 *paṇas*. See Shamasastry, *Kauṭilya's Arthasastra*, p. 272n.

(d) dealers in glass and artisans of fine workmanship —20 *karas*
(e) traders in inferior workmanship and keepers of prostitutes—10 *karas*
(f) traders in firewood, bamboo, stones, earthen pots, cooked rice and vegetables—5 *karas*
(g) actors and prostitutes—50 p.c. of the wage.

Besides the above, tradesmen not engaged in any kind of work are required to be charged with tax in cash.[1]

Without prescribing such a differential treatment for different professions, Manu[2] submits a flat rate of 1/20 amounting at least to one *kārshāpaṇa* which the king may collect from the merchant community in times of emergency. But, in no circumstances, the law-giver permits the state to impose tax upon the Śūdras, craftsmen and artisans, who are to render free service only. (3) Kauṭilya asks the breeders of cocks and pigs, breeders of inferior animals, and breeders of cows, buffaloes, mules, asses and camels to surrender respectively 1/2, 1/60 and 1/10 of their stock of animals to the Government. Kauṭilya, however, exempts from the payment of benevolence those who live in tracts of middle or low quality ; those who help in the construction of fortifications, gardens, buildings, roads for traffic, colonisation of waste lands, exploitation of mines and formation of forest ; those who live on the border of the kingdom or who have not enough subsistence ; the forest tribes as well as Brāhmaṇas learned in the Vedas.

Like forced labour, '*praṇaya* was beyond doubt another handle given to oppression and avidity.'[3]

Śulka is referred to in the Junagadh inscription as a tax distinguished from *bhāga* and *bali*. It is rather surprising to note that this important source of state income is not mentioned in any inscription of the Deccan during the period under review. But *śulka*, if understood in the sense of customs duty, was undoubtedly collected in the Peninsular India and the Saṅgam literature gives ample evidence of it. In the *Daśakumāracharita*, a next which, according to some scholars,[1] reflects the actual political situation in the Deccan in the 6th or 7th century A.D. and supplies reliable data regarding the closing period of Vākāṭaka rule in Vidarbha, also refers to the practice of collecting *śulka* in the Vidarbha country.[2] In the Siroda plates[3] Devarāja is represented as granting the income realised on things brought (*ānita*) into the gift village. Here we evidently find an allusion to the duty levied on articles of merchandise. Mention may also be made of the *māṇḍapikas* of the Hirahadagalli plates, who were the officers in charge of the *maṇḍapa* or custom-house, called *māṇḍavi* in Marathi and Gujarati.[4]

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[1] The tabular list relating to the amount of levy imposed on different professions at the time of emergency is based on the translation of Shamasastry except the last line which follows Ganapati Sastry's interpretation. Shamasastry's translation of it is 'Besides the entire property of goldsmith shall be taken possession of'.

[2] X. 120.

[3] *SRENI*, p. 129.

Ghoshal[5] cites from the literature a number of cases where the term *śulka* occurs either in the sense of a tax in general or that of a specific duty. Pāṇini in one of his *sūtras* (V.I.47) provides for the formation of words from *śulka* (*tadasmin vṛiddhyayalābhaśulkopadadiyate*). The definition in the *Kāśikā* of *śulka* in the above *sūtra* of Pāṇini *viz. rakshānirveśo rāja bhāgaḥ śulkaḥ* is further explained in the *Bālamanoramā* as *rakshā tadarthe nirveśo bhṛitiḥrakshānirveśaḥ*. According to this interpretation, *śulka* is a general designation for tax. But in the standard lexicons *śulka* refers to *ghaṭṭādideya*, *i.e.* what is payable at the ferries, etc.[6] The items indicated by the expression *ādi* seem from Kshīrasvāmin's commentary on the above passage in *Amara*, II. 8.27 to have been the tolls paid at the military or police stations and the transit duties that were paid by merchants. In Pali, *suṅka* (Skt. *śulka*) implies tools, duties and customs.[7] The commentators on *Manu*, VIII. 307, likewise, explain *śulka* as a tax paid by merchants, etc.,[1] Kauṭilya, however, distinguishes *śulka* from *gulmadeya*, *taradeya* and *vartanī*[2] and enjoins on the Superintendent of Tolls to collect *śulka* at the toll-house situated near the main gate of the town.[3] In another place,[4] Kauṭilya says that the merchant shall pay *śulka* or customary toll levied in port towns (*pattana*). The *Paddinap-palai*[5] states that customs duties were levied at all the seaports, whereto goods landed, were impressed with a seal bearing the royal emblem, and were removed to the merchants warehouse after payment of duty. In the *Perum-pāṇ-aṟṟuppadai*, 81, we are told that tolls were collected at the frontier of every kingdom and on the trunk-roads used by caravans.[6] Kauṭilya[7] refers to the toll-house at the entrance of the city collecting tolls on merchandise.

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[1] See V.V. Mirashi, 'Historical data in Daṇḍin's *Daśakumāracharita*', *ABORI*, Vol. XXVI, pp. 20ff.

[2] Ch. VIII ; ed. Kale, text, p. 192.

[3] *EI*, Vol. XXIV, pp. 143ff.

[4] See Wilson's Glossary, s.v. *māṇḍavī*.

[5] *PAIOC*, 1928, pp. 208ff.

[6] Cf. *Amara*, II. 8, 27 ; *Anekārthasaṁgraha*, II. 19, etc. ; *Abhidhānachīntāmaṇi*, III. 388.

[7] See *P.T.S. Dictionary* s.v. *suṅka*.

All this tends to show that, though *śulka* refers to taxes in a general way, it was mainly tolls paid by the merchants for various purposes, such as, for crossing the river, for transit purposes, for protection against robbers and thieves[8] as well as for clearing the customs dues. That *śulka* was a tax levied on merchants is evident from the statement of Nārada who advises Yudhisṭhira to collect through his officers the customary *śulka* from the merchants who come from distant places with the object of making profit.[9]

Kauṭilya[10] says that both import and export duties (*nishkrāmyaṁ prāveśyaṁ cha śulkām*) are to be levied upon goods produced in the countryside (*bāhyam*) and the capital city (*ābhyantaram*) as well as those brought from foreign lands (*ātithyam*). The duty was generally 1/5 of the value of the merchandise though it could also be 1/6, 1/10, 1/15 or 1/25. The duty on conch-shells, diamonds, jewels, pearls, coral and necklaces, however, was fixed after an assessment made by experts acquainted with the time required for production as well as the cost and finish of such things. In the Smṛitis the standard rate on imports as well as on all sales is much lower than the *Arthaśāstra* standard of 1/5. Manu and Gautama state that the king is to take 1/20 of the profit upon the value fixed on each saleable commodity (excepting grains) by experts in the settlement of tolls and duties and of prices.[1] According to Vishṇu, the import duty[2] is generally 1/10 and the export duty[3] 1/20 of the price of the articles. According to the *Agni Purāṇa*,[4] the king might take 1/20 of internal merchandise and, for foreign merchandise, as much as would leave the trader a profit of 1/20. Thus the trader made a profit, after paying the duty on merchandise. Śukra[5] expressly states that *śulka* should be levied only when the buyer or seller makes a profit. Manu[6] and the *Mahābhārata*[7] further contend, "Having well considered (the rates of) purchases and (of) sale, (the length of) the road, (the expense for) food and condiments, the charges of securing the goods, let the king make traders pay duty." Kauṭilya[8] also favours remission of the trade taxes for mariners and merchants who import foreign merchandise so that they may derive some profit.

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[1] Cf. *śulkaṁ vānijyakāribhyo niyatasthāneshu dravyānusāre grāhyaṁ dānamiti prasiddhaṁ śulkaṁ tarādideyaṁ*—Sarvajña ; *śulkaṁ vanigād-erhaṭṭādiniyatasthāneshu dravyānusārena yad grāhyam*—Rāghava ; *śulkaṁ pathikair vanigādibhirdeyam*—Nandana.

[2] *AS*, II. 16. 35.

[3] *Ibid*, II. 21.

[4] *Ibid.*, II. 28.

[5] 125-135. See V. Kanakasabhai, *Tāmils Eighteen Hundred Years ago*, p. 112.

[6] See Kanakasabhai, *loc. cit.*

[7] *AS*, II. 21.

[8] *Mbh*, Śānti., 71. ; *Mārk.*, XVIII. 3-8

[9] *Mbh*. Sabhā, 5.

[10] *AS*. II. 22.

Kauṭilya[9] further lays down that, before the merchants pass the toll-gate of the city, his merchandise should be examined and stamped by the *antaḥpāla* and then sent to the Collector of Tolls. Those who gave false declaration about merchandise and whose merchandise bore either no seal or a counterfeit seal were liable to fines. Heavy fine was prescribed for people who indulged in tax evasion and smuggling. The Smṛiti writers also deprecate the smugglers in no uncertain terms. "He who tries

[1] *Manu*, VIII. 398 ; *Gaut.*, X. 26.
[2] III. 29 ; cf ; also Baudh., I. 10, 18, 14.
[3] III. 30.
[4] CCXXXII. 23.24.
[5] IV. ii, 218f.
[6] VII, 127.
[7] Śānti, 87.
[8] *AS*, II. 16.
[9] *Ibid.*, II. 21.

to avoid the toll by buying or selling at improper time (*i.e.* at night, etc.) or by falsely enumerating his goods shall be fined eight times the amount of duty" is the opinion of Manu[1] and Nārada.[2] According to Vishṇu,[3] the evader shall lose all his goods. The king is also given the right to confiscate the whole property of a trader who exports goods of which the king has a monopoly or the export of which is forbidden.[4] But the fear of punishment could not stop the practice of smuggling. Thus the *Daśakumāracharita*[5] refers to the practice of dishonest officials who evaded *śulka* by passing off their own goods as the royal merchandise.

In the Hitnahebbagilu plates[6] of Kadamba Mṛigeśvaravarman the expression *paṅga* occurs in the sense of a fiscal term. In the Bandora plates also we find that the donee was exempted from *paṅga*.[7] A number of inscriptions, though not strictly belonging to our period, refer to some other variants of the term, like *pāṅga*,[8] *paṅgā* and *paṅgga*[9]. Following B.L. Rice,[10] who frankly expressed his inability to make out the meaning of *paṅga* in the Hitnahebbagilu plates many scholars attempted to interpret it properly. K.T. Telang read *paṅga* as *paṅgu* in the Goa plates[11] of Chālukya Satyāśraya and interpreted it as "free from all lame people." But Keilhorn pointed out that the correct reading should be *paṅga* and not *paṅgū*.[12] P.B. Desai[13] explained *paṅga* as 'form' or 'shape', although an alternative suggestion offered was that *paṅga* might be a mistake for *poṅge* derived from *pon* meaning 'gold'. Later on changing this view, Desai[14] connected *paṅga* with Kannada *paṅgu* meaning 'obligation' or 'indebtedness'. The word *paṅga*, in his opinion, has passed into the Marathi language in expressions like *paṅga pheḍaṇem* (to discharge the debt).

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[1] VIII. 400.
[2] III. 12-13.
[3] III, 151, cf. also *Yāj*, II. 265.
[4] *Manu*, VIII. 399 ; cf. also *Vishṇu*, V. 129, *Yāj*, II. 264.
[5] Ch. VIII ; Kale's trans., p. 146.
[6] *EI*, Vol. XVI, pp. 264ff.
[7] *Ibid.*, Vol. XXXIII, pp. 293ff.
[8] *QJMS*, Vol. XLV, p. 66.
[9] *EI*, Vol. XXXIII, pp. 55-56.
[10] *EC*, Vol. IV, p. 85.
[11] *JBBRAS*, Vol. X, pp. 384.
[12] *Ibid.*, pp. 365-66, *EI*, Vol. VI, p. 13n.
[13] *QJMS*, Vol. XLV, p. 2f.
[14] *EI*, Vol. XXX, p. 75.

Sircar, however, provides us with a better interpretation of *paṅga*.[1] As he suggests, the expression *paṅga=pāṅga* of the inscriptions is the same as Telugu *paṅgamu* recognised in the sense of 'a tax in the shape of one-fourth of the produce collected in olden times by the government on lands in the possession of gods and Brāhmaṇas' (*deva-Brāhmaṇa-vṛittula mīde pūrvapu sarkāruvāru tīsikone-chaturthāṁśam=aiyna kappamu*). It may be connected with Tamil *paṅgu* and Malayalam *paṅka* recognised in Wilson's *Glossary* in the sense of 'a share'. Sircar has drawn our attention to a number of medieval land grants mentioning *paṅga* or *paṅgā*, besides *paṅga-tappu* and *paṅga-śulka*, or *paṅga-tappu śulka* in a single compound, mentioned in some cases along with other levies called *āya-śulka*, *pannu*, *puṭṭi* and *māḍalu*. The distinction between *paṅga-tappu* and *paṅga-śulka* is not clear. Sircar thinks that *paṅga-śulka* may be the same as *paṅga* explained above and *paṅga-tāppu* may indicate interest or fine on arrears of *pāṅga*. The expression *sarva-paṅga-parihṛita* (exempted from all the *paṅgas*) used in some cases would suggest that *paṅga* often indicated a levy in general and that there were various kinds of it.

Along with *paṅga*, *utkoṭa* is mentioned in the Hiṭnahebbagilu plates as a levy. Sircar[2] has shown that the Jaina *Vyavahārasūtra* gives the Prakrit form of *utkoṭa*, as *ukkoḍa*, which H.T. Seth in his *Pāiyasaddamahaṇṇavo* recognises in the sense of 'things to be offered to the *rājdkula*' and 'presents made to the king and others.' The same lexicon recognises *ukkoḍā*, a feminine form of *ukkoḍa* and found in works like the *Deśīnāmamālā*, *Praśnavyākaraṇasūtra* and *Vipākasūtra*, in the allied sense of 'bride.'

In the inscriptions, kings are sometimes, stated to have granted land together with the right to enjoy *nidhi* and *upanidhi*. Vishṇu[3] defines *nidhi* as wealth the owner of which is not known. *Upanidhi*, which is the same as *nikshepa*, is recognised by Amara[4] in the sense of a deposit.

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[1] *Ibid.*, Vol. XXXIII, pp. 55-56.
[2] *Ibid.*, p. 56.
[3] III. 36-39.
[4] II. 11, 81.

The absence of a regular banking system in ancient India gave rise to the practice of burying one's treasure underground. In the *Gāthāsaptaśatī*,[1] we have occasional references to the *nidhānakalasas* containing buried treasure. 'It is these *nidhānakalasas* whose discovery from time to time has enlivened the annals of Indian numismatics.'[2] As distinguished from such buried treasure in the *nidhānakalasa*, there is in the *Harshacharita* a detailed reference to *kośakalosa* which, it is stated, even carried a label containing a numerical description of its contents.[3]

It appears from the inscriptions that the state had certain right over the hidden treasure the owner of which was not known. In the *Arthaśāstra*,[4] treasure trove is included in the list of the king's receipt from external sources (*anyajāta*). The *Arthaśāstra* and the Smṛitis are generally unanimous on the point that, if anybody other than a Brāhmaṇa, finds a treasure, he gets 1/6 of it and the rest goes to the royal treasury.[5] Kauṭilya[6] says that a discoverer of mines, precious stones or treasure trove shall, on supplying the information to the king, receive 1/6 of it as his share ; but if the discoverer happens to be a labourer (*bhṛitaka*), his share shall be only 1/12. On the other hand, the discoverer gets nothing when the treasure trove is valued beyond 100,000 (*paṇas*) and in that case the entire amount goes to the king. We may mention in this connection that Nārada[7] allows a king to appropriate the entire *nidhi* without giving 1/6 to the finder if the latter is not a Brāhmaṇa. Vishṇu,[8] however, is more liberal in allotting the shares of hidden treasure. He lays down that, when the discoverer is a Kshatriya he keeps 1/2 of it for himself and gives half of the rest to the king and the other half to the Brāhmaṇas ; when the person is a Vaiśya, the king receives 1/4, the Brāhmaṇas 1/2 and the finder 1/4 of the *nidhi* ; when he is a Śūdra, the *nidhi* is divided into 12 equal shares five of which go to the king, another five to the Brāhmaṇas and the remaining 2/12 to the finder.

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[1] IV. 73 ; V, 7 ; VI. 75, 76.

[2] *Art and Letters*, Vol. XIX, p. 331.

[3] *Loc. cit.*

[4] II. 6.

[5] *Gaut*., X. 43-5 ; *Vaś*., III. 15 of Vijñāneśvara on *Yāj*., II. 34-5.

[6] IV. 1.

[7] VII. 6, 7.

[8] III. 34-35.

Yājñavalkya,[1] going a step forward, keeps only 1/6 of the treasure for the king and the remainder for the finder. Vijñāneśvara, however, understands this passage in the sense that, when any person other than a Brāhmaṇa finds the treasure, the king is to take it after paying 1/6 to the finder.

In the concurrent opinion of the lawyers,[2] when a Brāhmaṇa discovers the treasure, he is to keep the whole of it, "for he is the lord of all.' But the commentators on the *Manusmṛiti* like Medhātithi, Govindarāja and Sarvajñanārāyaṇa as well as Devanabhaṭṭa, the author of the *Smṛitichandrikā*, take *Manu*, VIII. 37 to mean that the rule permitting the Brāhmaṇas to consume the treasure applied only when it belongs to them; when, however, the owner of the treasure is not known, the king's share of 1/6 has to be paid by the finder, even though he is a Brāhmaṇa. On the other hand, in Kullūka's opinion, this interpretation of the said passage of Manu is unwarranted and goes against the evidence of Nārada and Yājñavalkya.[3]

Vishṇu[4] and Yajñvalkya[5] ask the king to give to the Brāhmaṇas half of the treasure discovered by him while according to Manu[6] he is to give 1/2 of it to the upper classes and send the rest into his treasury. Mitramiśra in his *Vīramitrodaya* takes this passage of Manu to mean that the king should keep the remaining half of the treasure in his own treasury with the object of restoring it to the rightful owner when he appears.[7] The *Arthaśāstra*[8] holds that, when a person proves his title to the treasure deposited by the ancestor, he should get the whole of it. Manu,[9] on the other hand, allows a king to take 1/12 or 1/6 of such ancestral property. Taking possession of a treasure trove on false claim was considered a crime. Manu[10] prescribes a fine amounting to 1/8 of the value of the offender's property. Kauṭilya[1] says that such persons shall be punished with a fine of 500 (*paṇas*). He further adds that taking possession of hidden treasure in secret shall be punished with a fine of 1,000 (*paṇas*). It is interesting to note that the *Samarāichchakahā*,[2] a Jaina religious romance written by Haribhadra in the second half of the 9th century A.D., mentions how a mother warns her son not to remove a hidden treasure, lest the king should come to know of it.

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[1] II. 34-35.

[2] *Gaut.*, X, 43; *Manu*, VIII. 37; *Yāj.*, II. 35 *Vishṇu*, III. 34; *Nār.*, VII. 7.

[3] See *HRS.*, pp. 121-22.

[4] III. 33.

[5] II. 35.

[6] VIII. 39.

[7] *HRS*, p. 122.

[8] IV. I.

[9] VIII. 35; cf. also *Yāj.*, II. 36. According to Vishṇu, the depositor of the *nidhi* will give 1/12 to king (III. 36).

[10] VIII. 36. According to Vishṇu (III. 37), such a person shall pay a fine equal to the value of the underground treasure.

In the Hirahadagalli plates, we meet with the fiscal term, *koṁjala*, which is mentioned along with *kara* and *veṭṭhi*. It is not unlikely that the Prakrit *koṁjala* is connected with the Sanskrit *kuṁjala*,[3] the same as *kāñji* or *kañjika*,[4] all referring to 'sour gruel'. In that case *koṁjala* may be taken in the sense of a tax on fermentation.[5] Alternatively, it may mean the obligation of free supply of sour gruel to the king's labourers working in the neighbourhood.[6]

As we have seen above the Bonda plates[7] of Mahaśiva Tīvara suggest that the property of an heirless person was another source of state revenue. The plates bestow upon the donees the royal right to enjoy *aputrika-veṇī*. The word *veṇī* means 'reunited property after it was once divided'. The expression *aputrika-veṇī* has probably been used in this inscription in the sense of 'the property of a person who died without leaving an heir'. This is sometimes mentioned as *aputrā*, *āputrika*, *aputraka*, *aputraka-dhana* and *aputrikā-dhana*.[8] Kauṭilya[9] includes the property of those who have fallen victims to epidemics (*ḍamaragatakasva*) leaving no sons in a list of articles which constitute accidental receipts (*anyajāta*) of the king. As regards property belonging to one who is not a Brāhmaṇa but of which the owner has since disappeared. Baudhāyana[1] says that the king should protect it for himself. According to Manu,[2] the property of which the owner has disappeared is to be kept in deposit by the king for three years, and, if not claimed by this time, the king may justly take 1/6 or 1/10 or 1/12. According to Bṛihaspati,[3] when a partner in trade dies, his goods are to be made over to his heir after the claim is established. In such an event, the king is to take 1/6, 1/9, 1/12, and 1/20 from the property of Śūdras, Vaiśyas, Kshatriyas and Brāhamaṇas respectively. If, however, no heir would appear even after three years, the king would take the property, an exception being made in favour of the Brāhamaṇas, whose property goes to fellow Brāhmaṇas. A Jātaka story[4] tells us how on receipt of the news that his chaplain (*purohita*) along with his wife renounced the world after his sons had done the same, the king proceeded to confiscate their property, saying 'property without heirs (*assāmikadhana*) belongs to the king'. The Jaina *Uttarādhyayanasūtra* tells the story of a king who was about to confiscate the property of his *purohita* when the latter renounced the world with his wife and sons and how the queen dissuaded her husband from this act. In the *Abhijñānaśakuntala*[5] we read that when a sea-faring merchant named Dhanamitra died in shipwreck, the king declared that, since the poor fellow was childless, the wealth hoarded by him was to go to the royal exchequer. Niyogi[6] refers to the *Rājataraṅginī*[7] to show that the practice of confiscating the properties of those who died without issues was also current in Kashmir. Ghoshal[8] draws our attention to a mass of contemporary as well as subsequent evidence from which it transpires that Kumārapāla (1143-73 A.D.), the Chaulukya king of Gujarat, after his conversion to Jainism prohibited the earlier practice of confiscating the property of persons dying without male heirs. The method of transferring the property of the deceased persons to the king's treasury is given in the *Mohārājaparājaya*[1] of Yaśaḥpāla. There it is stated that, when a subject died sonless, his friend could not enter his house nor could his body be removed till his entire property was sent to the king's treasury.

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[1] IV. 1. Vishṇu (III, 36) says that the entire property of the person, who possesses *nidhi* without informing the king, will be confiscated. Yājñavalkya (II. 36) in such cases suggests confiscation of the *nidhi* and not the person's property.

[2] Jacobi's ed., p. 152 (quoted in Ghoshal, *HRS*, p. 122).

[3] See Apte, *The Practical Sanskrit English Dictionary.*, *s.v.*

[4] *Daśa*, VI ; Kale's trans. p. 122.

[5] See *Select Inscriptions*, p. 442n.

[6] See *Ind. Ep.*, p. 391.

[7] *EI*, Vol. XXXIV, pp. 111ff.

[8] See *EI*, Vols. III, pp. 263ff ; XXVIII, p. 291 and note ; XXX, p. 170.

[9] *AS*. II. 6.

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[1] I. 10, 6.

[2] VIII. 30-33.

[3] Quoted in the *Vivādaratnākara*, p. 116 ; *Vivādachintāmaṇi*, p. 65.

[4] *Jāt.*, IV, 509.

[5] Act VI.

[6] *Op. cit.*, p. 209.

[7] VII. 697.

[8] *HRS*, p, 258.

The Mayidavolu grant exempts the donee from the supply of *kūra-cholaka-vināsi-khaṭvā-saṁvāsa*. According to Hultzsch, *kūra* means 'boiled rice' and *cholaka*[2] is the same as *chullaki, i.e.* pot. Sircar[3] thinks that they may mean 'unboiled rice' and 'a fire-place for cooking' respectively. The word *vināsi* has not yet been properly interpreted. Sircar[4] takes it to mean 'fuel'. Mirashi and Mahajan[5] after suggesting that *venesika* in the Basim plates corresponds to *vināsi* in the Mayidavolu grant and *venesi* in the Hirahadagalli grant, equate it with Sanskrit *vaināśika* which the dictionaries recognise in the sense of 'a slave, a dependant or a subject'. In their opinion the obligation to provide servants for touring officers is perhaps meant by this term. *Khaṭā* and *samvāsa* obviously refer to 'cot' and 'dwelling' respectively indicating that the villagers had to arrange for the shelter and other amenities for the touring royal officers.

The Hirahadagalli plates show that the villagers were occasionally under obligation to supply to the king *tana* (grass) and *kaṭṭha* (wood). The obligation of supplying grass from the pastures and fuel is also recorded in other inscriptions.[6] In the former Bombay Presidency it was customary to supplement the land revenue demand by cess for special objects such as the *ghās-dān*.[7] This practice was abolished by the British Government. Besides the articles already specified, the Mayidavolu inscription refers to the royal right to collect *haritaka* (myrobalan), *śāka* (vegetables), *pushpa* (flowers), *dudha* (milk) and *dadhi* (curd). Many of these objects are also listed in the

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[1] *GOS* (ed.), Intro., pp. X-XI.

[2] Cf. *chollaka* in the Hirahadagalli plates.

[3] *Ind. Ep.*, pp. 390f.

[4] *Suc. Sat.*, p. 187.

[5] *EI*, Vol. XXVI, p. 155n.

[6] Eg. *EI*, Vols. XXIV, p. 144 ; XXXI, p. 7.

[7] *Imp. Gaz.*, Vol. VIII, p. 353.

Vākāṭaka grants. The last two, *viz. dudha* and *dadhi* appear to fall under the category of *pāna*, which according to Manu, was daily payable by the villagers to the *grāmika*.[1] A Sālaṅkāyana charter[2] extends the list of such objects payable to the state by including in it leaves, ghee and butter-milk.

In the Vākāṭaka inscriptions we sometimes read that the land granted was made *a-chārāsnanacharmāṅgāra*, or *a-chammaṅgālaka*. Fleet[3] interprets it in the sense that the grant did not carry with it the right to the pasturage, hides and charcoal. According to Ghoshal,[4] this explanation cannot be upheld, since the context evidently suggests an immunity granted in favour of the donee, and not the reservation of a right by the donor. As we have seen in the previous chapter, there is also difference of opinion with regard to the interpretation of the term *chārāsana*. Fleet takes *chārāsana* to mean pasturage. But Sircar[5] points out that while *chāra* means 'moving about' (cf. *pāra* in its place in some records meaning 'ferrying of river'), *āsana* means 'encamping'. The compound in the Vākāṭaka records thus seems to refer to the free passage, free camping and free supply of hide-seats and charcoal usually offered by the villagers to the touring royal officers. That *āsana-charman* means hides which villagers had to supply to the wandering officers for their seats has been accepted by Mirashi[6] and Ghoshal.[7]

The imposts like boiled rice, curd, vegetables, milk, fruits, etc., which the villagers had to supply to the state free of cost, seem to have been demanded usually for the royal officers on tour. In view of this fact it is easily intelligible why the land grants frequently state that the donated area was prohibited for the *chāṭās* and *bhaṭas* (*a-chāṭa-bhaṭa praveśya*). The term *a-chāṭa-bhaṭa praveśya*, however, is interpreted in many ways.

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[1] Manu (VIII. 115-19) says, "the articles of food, drink, fuel and other things which are to be given unto the king daily by the villagers, the chief of the villagers should obtain (for his livelihood)."

[2] *EI*. Vol. XXXI, pp. 1ff.

[3] *CII*, Vol. III, p. 240.

[4] *Op. cit.*, pp. 194-95.

[5] *Select Ins.*, p. 414n ; also. *Ind. Ep.*, p. 393.

[6] *JNU*, 1937, No. 3, p. 24. Mirashi, however, suggests that *chāra* refers to 'grass for the horses of touring officers'.

[7] *HRS*, p. 195.

Dowson[1] prefers the translation 'into which the entrance of cheats and out-casts is interdicated,' and quotes such other translation as 'there shall be no passage for troops' (Charles Wilkins); 'the village is not to be entered into by the troops and followers of the king' (Bal Gangadhar Sastri); 'exempt from the ingress of fortune-tellers and soldiers' (Fitz Edward Hall). Bhagawanlal Indraji[2] understands *chāṭa-bhaṭa* in the sense of soldiers against robbers and says that it denotes the royal police. Bühler[3] and following him Fleet[4] again connect *a-chāṭa-bhaṭa-praveśya* with the expression *samastarājakiyānām a-praveśyam* meaning 'not to be entered by any of the king's people' in the Ila and Umeta grants of Dadda II and interpret it as "not to be entered by irregular or regular troops". That Dowson's translation of *chāṭas* and *bhaṭas* as 'cheats and outcastes' cannot be maintained is clearly indicated in the Rajim plates[5] of Mahāśiva Tīvara where they are mentioned along with other government servants.

In the the Surat plates[6] of Vyāghrasena, the *chāṭas* and *bhaṭas* act partly as police and partly as military personnel. They were appointed to arrest robbers and persons guilty of high treason. Maity[7] refers to a passage in the *Harshacharita*[8] where we find the mention of *chārabhaṭas* together in one compound like the *chāṭa-bhaṭas* of the land grants. Bāṇa tells us that these officers were hated by the country people on account of their cruelty and greed. In one place,[9] he describes them as talking and laughing with the slaves and servants of the nobles after taking plenty of grain from the fields. In another place, he writes that the poor people grumbled against the cruelty and ill-treatment received at their hands.[10] In the inscriptions, however, *chāṭa* and

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[1] *JRAS, NS,* 1865 pp. 271, 285f.

[2] *IA*, Vol. IX, p. 175n.

[3] *Ibid.*, Vol. VI. p. 71.

[4] *Ibid.*, Vol. VII. p. 250 and note.

[5] *CII*, Vol. III, pp. 291ff; cf. also *EI*, Vol. XII, p. 157.

[6] *EI*, Vol. XI, p. 221.

[7] *Op. cit.*, p. 64.

[8] VII.

[9] *Loc. cit.*

[10] Yājñavalkya (I. 336) speaks of the duty of the king to protect people from the harassment caused by *chāṭas* and the *Mitāksharā* explain *chāṭa*

(*Continued on next page*)

bhaṭa are used in the sense of royal servants. Vogel[1] thinks that *chāṭa* corresponds to *chāṛ* of modern Chamba meaning 'the head of a Parganā' and *bhaṭa* was an officer subordinate to *chāṭa*. But *chāṭa* and the corresponding designations, *chāra* and *chhātra* and *bhaṭa* really mean constables, *i.e. pāiks*, *piādas* and *barkandāzes*. As suggested by Sircar,[2] *chāṭa* may be the leader of a group of *bhaṭas*, *i.e. pāiks* and *piādas*. Mirashi[3] also thinks that the *chāṭas* and *bhaṭas* were something like modern policemen and soldiers responsible for the peace and order in the kingdom. Sircar thinks that their duty consisted of collecting royal dues and apprehending thieves and robbers.[4]

Another exemption of the nature of *a-chāṭa-bhaṭa* is *a-raṭha-saṁvinayika* referred to in the Sātavāhana and latter records. Commenting on the expression Senart says, "The word seems to represent *arāshṭrasṁvinayika*, but etymology alone is an unsafe guide in the interpretation of technical terms. *Vineti* is only used in a moral sense. Could we think of translating 'exempted from the police, the magistrate of the district (*rāshṭra*; compare Dr. Fleet's *Gupta Inscriptions*, p. 32 notes) or of a

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as persons who deprive people of their wealth after creating false confidence in them. Anandagiri (see *EI*, Vol. IX, p. 296 ; also Sircar, *Ind. Ep. Gloss.*, p. 68) says that the *chāṭas* are those that transgress the rules of conduct for decent people and that the *bhaṭas* are servants telling falsehood.

[1] *Antiquities of Chamba State*, pp. 130-32.

[2] *Op. cit.*, s.v. *chāṭa*.

[3] *JNU*, 1937, No. 3, p. 25.

[4] Maity (*op. cit.*, pp. 64-65), suggests that the *chāṭas* and *bhaṭas* were in the habit of collecting illegal extra taxes of the nature of *chauth*, and, as such, the right to claim freedom from their exactions was much valued by the recipients of land grants. But no comparisons can be drawn between the collection made by the *chāṭas* and *bhaṭas* apparently in the name of the king and the *chauth* exacted from wide areas outside the dominions of the Marathas (see J.N. Sarkar, *Shivaji*, pp. 341ff.). Moreover, it is hard to believe that the *chāṭas* and *bhaṭas* were given a free hand to collect illegal extra tax and the exemption from the *chāṭas* implied that the donees were relieved from paying illegal gratifications to them. Indeed, no Government worth the name is expected to allow knowingly the practice ascribed to the *chāṭas* and *bhaṭas* to continue within its territorial jurisdiction. As a matter of fact, by barring the entry of the *chāṭas* and *bhaṭas* the grants implied that the donees were not under obligation to supply provision for the royal officers and to pay taxes to them.

[5] *EI*, Vol. VII, pp. 651.

rāshṭrin ? This would remind us of these grants in which, on the other hand, it is stated that the right to punish the 'ten offences' (*sadaśāparādha* ; see, *e.g.* the Alina plates, 1.67 in Dr. Fleet's *Gupta Inscriptions*, p. 179 and the Deo-Baranark inscription, 1.17 ; *Ibid.*, p. 217) is transferred to the donee." *Vinī* or *saṁvinī* in the Nasik inscription No. 83 has been translated by Sircar[1] as 'to govern, control.' He, therefore, takes *saṁvinaya* to mean 'government, control (by punishment)', and suggests that *a-rāshṭra-saṁvinayika* means 'freedom from the general administrative control to which the district was subject'.

Belonging to this category of exemption is *a-bhaḍa-pavesa*[2] also mentioned simply as *apāvesa*.[3] *Bhaḍa* in this compound is obviously identical with *bhaḍamanusa* in the Hirahadagalli plates. Mirashi[4] rightly takes *a-bhaḍa-pavesa* to correspond to *abhaṭṭachchhātraprāveśya* and *a-chāṭa-bhaṭa-praveśya* of the later inscriptions.

In connection with this type of exemptions we may refer to *anmosha*. Senart[5] takes it to represent *anāvamṛiśya* and says that its certain equivalent in the later terminology, namely *samastarājakīyānām ahastaprakshepaṇīyam*,[6] etc. seems to imply that the royal officers were prohibited from taking possession of anything belonging to the village.

In some inscriptions,[7] we find the expression *a-loṇa-khādaka*, in a list of *parihāras* enjoyed by the donee. Senart[8] says, "These words are far from clear ; but if we remember the fact that the production of salt is a royal monopoly (Bühler in *EI*, Vol. I, p. 2 note) and the details quoted by Bhagawanlal (*Bombay Gazetteer*, Vol. XVI, p. 556, p. 179) regarding the manner of digging the soil for salt which prevailed in the very region of our inscription, it seems to me that the explanation proposed by Bhagawanlal, *viz. alavaṇakhātaka* with the Prakrit softening of *t* into *d*, is quite satisfactory. The object of this interpretation would thus be to deny to the representatives of the king the right of digging pits for extracting salt." That *khādaka* should be rendered as *khātaka* is also suggested by the Vākāṭaka inscriptions[1] where we find the term *a-lavaṇa-klinna kreṇi-khanaka, khanaka* meaning 'digging'. Burgess,[2] however, explains the term as exemption from the salt-tax and this interpretation seems more probable to Ghoshal,[3] since the term according to the latter evidently stands for an immunity granted in favour of the donee and not a right reserved to the king. In the opinion of Ghoshal, it probably refers to the exemption of the donee from fines for extracting salt which was regarded as a royal monopoly. But it is not clear how *a-loṇa-khādaka* can refer to the exemption of the donee from salt-tax. Indeed, *khādaka* and *khanaka* cannot but mean 'digging' and as such these expressions may safely be taken to stand for the abrogation of royal right of digging pits for extracting salt. *Klinna* or *klinnakreṇi*, which occurs along with *lavaṇa* in some Vākāṭaka grants, seems to mean moist substances like sugar which were obtained by boring certain trees like palmyra palm.[4] In this connection a reference may be made to the Hirahadagalli plates wherein a list of *parihāras* we find *a-loṇa-guḷa-chchhobha*, *i.e.* freedom from the trouble in respect of salt and sugar. In ancient India, salt, like other mineral products, was a royal monopoly.[5] It seems that the prohibition imposed upon the free manufacture of salt as well as the indiscriminate digging of private land for its preparation was a perennial source of discontent and irritation. Keeping this fact in consideration the Hirahadagalli plates, no doubt, associate *chchobha* only with *loṇa* and *guḷa* (*i.e.* sugar or molasses), the latter also being one of the bare necessities, and not with other fiscal terms.

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[1] *Select Ins.*, p. 193 n ; *Ind. Ep.*, p. 390.

[2] *EI*, Vol. VI, p. 87 ; *EC*, Vol. IV, p. 130; VI ; p. 91 ; VII, sk. 264. VIII, p. 12, etc.

[3] *EI*, Vol. VII, Karle Cave Ins., No. 19 ; Kondamudi grant, *EI*, Vol. VI.

[4] *JNU*, 1937, No. 3, p. 25. See also Fleet, *CII*, Vol. III, p. 98n.

[5] *EI*, Vol. VII, p. 67.

[6] *CII*, III, p. 171.

[7] *EI*, Vol. VIII, Nasik ins, nos. 3 & 4 ; *EI*, Vol. VII, Karle ins., no. 19 ; Mayidavolu ins. (*EI*, Vol. VI, pp. 84ff).

[8] *Ibid.*, Vol. VII, p. 65.

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[1] *Select Ins.*, p. 422.

[2] *ASWI*, IV, p. 105.

[3] *HRS*, p. 188.

[4] Sircar, *Ind. Ep.*, p. 392.

[5] *ākare levaṇe śulke tare nāgavale tathā|nyasedamātyānnṛipatiḥ sāptān vā purūshān hitān* || *Mbh.*, *Śānti*, 69. 29. Cf. also the transfer of the right of enjoying the minerals within the donated land in favour of the donee in some inscriptions of medieval period, (e.g. *salohalavaṇākara samatsyākara*, *EI*, Vol. XXXIV, p. 225. *l.* 17).

In the Hirahadagalli and Mayidavolu grants we hear of an exemption, viz. *a-paramparā-balīvarda-grahana*, which Bühler translates as 'free from the taking of the oxen in succession'. This *parihāra* implies that the villagers had to supply bullocks for the bullock-carts used by royal officers when the latter went on tour through the country for rent collection and other official work.[1] In the Basim plates[2] as well as in some other Vākāṭaka inscriptions,[3] the same expression occurs as *a-paramparā-go-balīvarda*. Mirashi and Mahajan[4] write, "In former times it was considered to be the duty of the villagers to supply means of transport for the touring of royal officers. Sometimes, a small tax, called *prayāṇa-daṇḍa* was levied for the purpose. See *Rājasevakānāṁ vasati-daṇḍa-prayāṇa daṇḍau na staḥ* in the Paithan grant of Rāmachandra, *IA*, XIV, p. 318. But the use of the term *go* in addition to *balīvarda* in Vākāṭaka grants rather indicates that the village was exempted from the obligation of giving to the state the first calf— male or female — of every cow in the village." According to Fleet[5], the compound means that it did not carry with it the right to cows and bulls in succession of production. According to Ghoshal,[6] however, a comparison with its equivalent term in the Hiradagalli grant shows it to refer to the immunity from the obligation of furnishing cattle in relays for transport.

A-vaha is another term of the nature of *a-paramparā-balīvarda grahana* which occurs in some inscriptions. Sircar[7] takes it to mean 'no obligation regarding carrying loads free of charge', while Mirashi and Mahajan[8] think that it refers to exemption from providing horses.

In the inscriptions of the Vākāṭakas occur some curious exemptions and privileges. One of these *viz. a-vāra-siddhika* is interpreted by Sircar[9] as 'no obligation regarding the completion of duty in turn'. Here the reference is apparently to free labour which the subjects were obliged to render to the state. This is, thus, a form of *vishṭi*. Another is *sa-kutuppanta sa-mañcha-mahākaraṇa*.[1] Sircar[2] takes *sa-kutuppanta* to stand for *sa kṛita-prānta* and suggests that it implies that the gift village was granted together with its demarcated boundaries. Mirashi and Mahajan[3] translate *sa-mañcha-mahākaraṇa* as 'platforms and important documents (?)' while according to Sircar[4] the expression implies 'together with elevated platforms for official use'. A third is *sa-koraṭah sa-pañchāśatakaḥ*.[5] Fleet translates *sa-pañchāśatakaḥ* as 'together with fifty (hamlets?).[6] Speaking of the former he writes "*sa-koraṭa* is a technical fiscal term, the meaning of which is not known. But *koraṭa* has a Dravidian appearance and sound, and is perhaps an old form of the Kanarese *korudu*, *koraṇḍu*, *karaṇlu*, 'a pollard, the trunk of a lopped tree ; a log, stump, short stick ;'— In Marathi we have *korat*, 'spun silk, while still raw or unboiled ; *koranta*, *koranta*, 'Berleria or Amaranth' ; and *kāraḍā* 'dry, empty, yielding no return or profit'."[7]

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[1] *Suc. Sat.*, pp. 186-87.

[2] *EI*, Vol. XXVI, pp. 137ff.

[3] *Ibid.*, Vol. III, pp. 258ff ; *CII*, Vol. III, pp. 236ff ; *IHQ*, Vol. XVII, pp. 110ff. etc.

[4] *EI*, Vol. XXVI, p. 155n ; cf. also Vol. XXII, p. 175n.

[5] *CII.*, Vol. III, p. 240.

[6] *HRS*, p. 194.

[7] *IHQ*, Vol. XVII, p. 116.

[8] *EI*, Vol. XXVI, p. 155n.

[9] *Loc. cit.*

In the Rajim plates[8] of Mahāśiva Tīvara *dāradraṇaka* appears as a fiscal term. Fleet[9] points out that the dictionaries give *dāra*, in the sense of 'a cleft ; gap, hole ; a ploughed field ; a wife ;' but they do not give *draṇaka*, or any root by means of which it can be explained. The term may refer either to some agricultural cess, or to a marriage-tax of the kind spoken of in lines 6ff. of the Dandapur inscription[10] of Jagattuṅga II dated Śakasaṁvat 840.

An inscription[11] dated *c.* 400 A.D. of the Gaṅga king Mādhava-varman records the grant of lands together with gold within the four boundaries and clothes covering the corpses in the cemetery. It is intelligible that, mining operation being a royal monopoly, the king empowered the donee to extract gold in the donated area, but the right to clothes covering the corpses is rather curious and remains to be explained.

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[1] *Ibid.*, Vol. XXVI, p. 153, *ll.* 23-24.
[2] *Ind. Ep.*, p. 392.
[3] *EI*, Vol. XXVI, p, 155.
[4] *Ind. Ep. Gloss.*, p. 194.
[5] Siwami plates of Pravarasena II, *CII*, Vol. III, pp. 243ff.
[6] *Ibid.*, p. 248.
[7] *Ibid.*, p. 248n.
[8] *Ibid.*, no. 81, pp. 291ff.
[9] *Ibid.*, p. 299n.
[10] *IA*, Vol. XII, pp. 223f.
[11] *EC*, Vol. XVI, p. 77.

In the Poona plates[1] of Prabhāvatīguptā the donee is exempted from *paśumedhya*. Sircar[2] explains it as the custom of taking on the king's part animals like goats for sacrificial purposes.

From the Hebbata grant[3] of Vishṇuvarman I *daṇḍa* seems to have been a distinct source of royal revenue. Kauṭilya prescribes imposition of *daṇḍa* or fine on persons found guilty in some civil and criminal cases. We have already referred to the amount of fine to be imposed upon tax-evaders, smugglers, etc. It is, however, extremely doubtful that the Hebbata grant understands *daṇḍa* in the way of Kauṭilya for in that case the donee would receive the right to commit crime without the fear of punishment. Kauṭilya[4] himself admits that it is *daṇḍa* and *daṇḍa* alone which, only when exercised by the king with impartiality and in proportion to guilt, either over his son or his enemy, maintains both this world and the next. It is significant that while the Hebbata grant mentions *daṇḍa* along with *kara* and *vishṭi*, in one place in the *Arthaśāstra*[5] it is associated with *hiraṇya*, *vishṭi* and tolls. Kauṭilya says that the *gopa* should keep an account of the exact number of cultivators, cowherds, merchants, artisans, labourers, slaves, and biped and quadruped animals, fixing at the same time the amount of cash, free labour, toll, and *daṇḍa* that can be collected from each house of the village concerned. It thus appears that *daṇḍa* is a kind of levy imposed upon the villagers like *kara*, *vishṭi*, *śulka* and *hiraṇya*. In the Paithan grant of[6] Rāmachandra occurs the following expression : *rāja-sevakānāṁ vasatidaṇḍa-prayāṇdaṇdau*. Here *vasati-daṇḍa* and *prayāṇa-daṇḍa* refer either to the obligation of rendering free service to and providing dwelling houses for the royal officers respectively or to a levy for the same. We do not know whether *daṇḍa* is taken in the Hebbata grant in the sense the Paithan plates understand it.

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[1] *EI*, Vol. XV, pp. 39ff.

[2] *Select Ins.*, p. 414n.

[3] *Mys. Arch. Surv.*, A.R., 1925, p. 98.

[4] *AS*, III, I.

[5] II, 35.

[6] *IA*, Vol. XIV, p. 318.

The Bonda plates[1] record that Mahāśiva Tīvara granted a village 'together with the ten offences' (*sadaśāparādha*). Fleet[2] says that this clause concedes to the donee the royal right to the proceeds of fines for commission of ten offences by the villagers. The 'ten offences' have tentatively been taken by him to consist of three specified sins of the body— theft, murder and adultery ; three of the mind— coveting other's property, thinking of wrong, and devotion to what is not true ; and four of speech— harsh, untruthful, libellous, and pointless words. Jolly[3] on the other hand connects them with a list of ten chief crimes mentioned by Nārada (I, 11 ff), while Hiralal[4] identifies them with a list of ten sins mentioned in the *Śukranīti* (III.6). In the opinion of B.C. Majumdar[5], it included 'adultery, assault, defamation and offences relating to village roads and water reservoirs'.[6] Ghoshal[7], however, does not agree with Fleet's contention on the ground that there is no authority for the supposition that the grant of rights of jurisdiction was ever contemplated in the case of holders of religious grants. He then tries to explain *daśāparādha* in the following way : As it occurs along with the contributions in grain and in domestic animals in a list of king's receipts (*utpatti*) in the Cambey grant[8] of the Rāshṭrakūṭa Govinda IV, the phrase undoubtedly stands for a kind of income accruing from the villages. In a Nepal grant[9] of the 6th century A.D., the privileges conferred upon the village, dedicated to a Buddhist establishment, are declared to comprise, among other things, the liability of the person of the delinquent to be seized by the king's officers in the event of the commission of five specified offences, *viz.* theft, adultery, murder, complicity and so forth. Ghoshal, therefore, thinks that the term *daśāprādha*, as used in the land grants, refers to the right of the donee to be exempted at least in part from the ordinary penalties for the commission of some traditional offences by the villagers. But *sadaśāparādha* in our inscription does not appear to refer to an exemption. On the other hand, it expressly refers to the donee's right to enjoy *daśāparādha*. Ghoshal himself admits that the phrase stands for a kind of income accruing to the king from the villages. Why, therefore, should we not believe that like *bhāga*, *bali*, etc. which the kings are said to have granted frequently, this source of income might also be surrendered in favour of the donee ? In fact, we have no reason to discard the orthodox view with regard to *sadaśāparādha* first advanced by Fleet. Beni Prasad[1] rightly observes that *daśāparādha* in its administrative sense means judicial fines. Thus, justice was one of the recognised sources of revenue and, as such, could be alienated to favourite grantees.

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[1] *EI*, Vol. XXXIV, pp. 113ff ; also Mallar plates of Mahāśivagupta, *EI*, Vol. XXIII, pp. 173ff.

[2] *CII*, Vol. III, pp. 189n and 218.

[3] *Recht Und Sitte*, p. 123 quoted by Ghoshal in *HRS*, p. 219.

[4] *EI*, Vol. IX, p. 47n.

[5] *JBORS*, Vol. II, p. 53n.

[6] For the ten *aparādhas* see Kane, op. cit., Vol. III, p. 264; Sircar, *Indian Epigraphical Glossary*, s.v. *daś-āparādha* and *Daśāparādhika*.

[7] *Op. cit.*, pp. 219-20.

[8] *EI*, Vol. VII, p. 36.

[9] Sylvain Levi, *Le Nepal*, Vol. III, pp. 102ff.

In the Bennur grant[2] of Kṛishṇavarman II, the donee is given the right to enjoy *rāja-bhāga-daśabandha*. The term *daśabandha* has been variously interpreted. Shamasastry translates the terms *pañchabandha* and *daśabandha* in the *Arthaśāstra*[3] as five times the amount and ten times the amount respectively. But Kullūka commenting on *Manu.*, VIII, 107 interprets *daśabandha* as *daśamabhāga* or 1/10 part, while Vijñāneśvara in his commentary on *Yājña.*, II, 171 explains *pañchabandha* as *pañchamāṁśa*, or 1/5 part.[4] In the medieval inscriptions of South India, *daśabandham* occurs in the sense of a tax or an allowance of land or revenue as compensation for the construction of a tank, well or channel.[5] Wilson[6] says that *daśabandham* is 'a deduction of 1/10 of the revenue on account of compensation for some public work, as the construction of a tank etc'. Sometimes it also meant the right of collecting 1/10 of the produce of lands irrigated from the waters of a tank or well by the person who repaired the water source. When the canals and tanks were repaired by the state the *daśabandha* was to be paid to the royal treasury. It was also collected for keeping the source of water-supply in good repair.[1]

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[1] *The State in Ancient India*, p. 303.

[2] *EC*, Vol. V, p. 594.

[3] *Op. cit.*, p. 169.

[4] See Ramachandra Dikshitar, *Daśabandham*, *JIH*, Vol. XIII, p. 175f.

[5] *Loc. cit.*

[6] *A Glossary of the Judicial and Revenue Terms*, p. 127.

The Betul[2] plates record the grant of a village together with the exemption of thieves and mischief-doers. The expression *choravarja* which stands for the exemption may be compared with its equivalents *chauravarja*, *choradrohakavarja* and *chora-daṇḍaja* of other inscriptions. In the Surat plates[3] of Vyāghrasena occurs a similar expression, *viz. chorarājapathyakārivarja*. In the *Arthaśātra*[4] *chorarajju* occurs as a fiscal term. Fleet takes *choravarja* and its equivalents to mean 'with the exception of the right to fines imposed on thieves'. Ghosal[5] thinks that it may more probably refer to the immunity of the donee from the tax imposed upon the villagers for village police. But it is not unlikely that the term really implies that the donee was 'without any right to inflict punishment on thieves and persons committing the crime of treason or to levy fines for them'.[6]

In the Vilavatti grant,[7] the donee is given the right to enjoy *rajju*. The editor of the grant reads it in compound with the succeeding word *prathihāra* and explains *rajjupratihāra* as a tax payable by the rope-jugglers or dancers. But in the *Arthasāstra* *rajju*, as distinguished from *chorarajju*, is used as a fiscal term apparently in the sense of a tax payable by the villagers.[8]

The Surat plates exempt the donee from all *ditya* and *vishṭi* (*sarvādityavishṭiparihiṇa*). Dowson[9] derives *ditya* from *do*, *da*, 'cut, split,' 'break, tear,' and suggests, cutting and hewing (of wood) as the translation. But in the present context, the term is probably derived from Prakrit *dijja*=Sanskrit *deya*, 'to be given', 'an object that has been given away' in the sense of 'customary presents', and appears to have been the same as *datti* meaning the obligations of the villagers to make occasional presents to the landlord.[1]

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[1] For different meanings of *daśabandha* see Sircar, *Indian Epigraphical Glossary*, pp. 84f.

[2] *EI*, Vol. *VIII*, pp. 284ff.

[3] *Ibid.*, Vol. XI, pp 219ff.

[4] II, 6.

[5] *HRS*, p. 211.

[6] Sircar, *op. cit.*, pp. 71, 75f.

[7] II. 6.

[8] Sircar (*op. cit.*, p. 274) takes *rajjupratihāra* in the sense of tax for maintaining surveyors (*Rajjuka*) and gate-keepers or toll-collectors (*pratihāra*). In the Kelga plates (*EI*, Vol. XXVIII, p. 323) *pratihāra* occurs as a fiscal term.

[9] *JRAS*, 1865, p. 284 ; *IA*, Vol. II, p. 249.

Uñchha occurs as a fiscal term in the Halsi[2] and Davangere[3] plates. *Uñchamana* along with other local dues, *viz.*, *adityuñcha* and *maṛumanna*, is mentioned in the Chālukya inscriptions from the Karnul District.[4] The exact meaning of *uñcha* is not clear but it may be a sort of tolls.

The Godachi plates[5] of Katti-arasa while recording the grant of twenty-five *nivartanas* of land in the Nulgala village make the following statement : *Nulgāla-grāmasya maṛumannam sarva-jātakam sa-toṭṭam sa-jīrakam sa-pānīyam saniveśam. Maṛumanna* in this statement has been interpreted by Panchamukhi[6] as waste or dry land, *maṛu* and *man* corresponding respectively to 'waste' or 'dry' and 'land'. But as we have seen above *maṛumanna* is sometimes mentioned in the Chālukya inscriptions as a local tax, the nature of which is still unexplained. *Sarva-jātakam* and *sa-toṭṭam* have been explained as 'inclusive of all the produce' and 'garden cultivation' respectively. This would mean that the king transferred the royal right of enjoying produce of the gift land in favour of the donee[7]. It may be assumed that *sarva-jātakam* actually referred to the grain-share to be given by the inhabitants of the gift land to the king or any authorised person. Taking *jīraka* to stand for cumin seed, Nandimath[8] construes that the gift was made by pouring water along with the cumin seed. But, in the opinion of Desai,[9] *jīraka* may be taken to represent any wild or cultivated crop of the cumin variety or, being equated with *jīrṇaka* or *jīrṇa*, it may mean 'whatever is inured in the soil'. The expression *sa-pānīyam* suggests that the donee was allowed to utilise the water in the gift land. This would mean that ordinarily a person was not allowed to be benefited from the water-resources which were state monopolies. Kauṭilya[1] refers to a tax called *udakabhāga* which a subject was obliged to pay to the state for using the water-resources. It may not be improbable that *sa-pānīyam* in the present grant implies that the donee was given the right to enjoy the water-sources without paying *udakabhāga* to the state.

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[1] *Sircar*, op. cit., p. 98.

[2] *IA*, Vol. VI, p. 28.

[3] *EI*, Vol. XXXIII, p. 89.

[4] *EHD*, p. 238.

[5] *EI*, Vol. XVIII, pp. 59ff.

[6] *JOR*, Vol. XI, pp. 165-7.

[7] *Cf. sarvajāta-bhoga-nirasta* in a Sātavāhana record.

[8] *Bomb. Univ. Jour.*, Vol. V, p. 170.

[9] *EI*, Vol. XXVIII, p. 61.

A Sātavāhana inscription refers to the grant of a village together with *kara* and *utkara*.[2] The meaning of *utkara* is doubtful though it may stand for minor tax.[3]

In the Mallar plates,[4] the gift land is exempted from all *pīḍās* (*sarvapīḍāvarjita*) etc. The meaning of *pīḍā* is vague though in the present grant it may refer to forced labour, benevolences and obligation to supply food, lodging and other necessaries to the touring officers.

The Siroda plates[5] of Devarāja records that a village was granted to two Brāhmaṇas together with *parivṛitta* and *ānita*. While *ānita* evidently refers to duties on articles of merchandise, *parivṛitta* has been interpreted doubtfully as income accruing (?) in the gift village.

The Vilavatti inscription[6] gives a list of persons professing different vocations from whose income the state demanded a share. The portion (*ll.* 18-19), which deals with the transfer in favour of the donee of several taxes, which the king was entitled to collect from the villagers, has been translated by the editor of the grant as follows : 'Whichever taxes are payable in this village by metal-workers and leather-workers (*loha-charma-kāra*), the shop keeping cloth-dealers (*āpaṇa-paṭṭakāra*), licensed spies (?) going about in loose masks or garments (*prāvarañ-chara*, these probably represent the begging *budubukkis* who go about in loose and heavy garments), rope-jugglers or dancers

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[1] *AS*, II, 24.

[2] See *Ind. Ep.*, p. 390.

[3] Senart (*EI*, Vol. VII, p. 62) suggests *sakarukara* as the equivalent of *sakarotkara*. Sircar (*Ind. Ep.*, p. 390n) thinks that *sakarukara* may be *sakārukara*, *i.e.*, 'together with the tax on artisans'.

[4] *EI*, Vol. XXIII, pp. 173ff

[5] *Ibid*, Vol. XXIV, pp. 144ff.

[6] *EI*, Vol. XXIV, pp. 296ff.

(*rajjupratihāra*), shops (in general) (*āpana*),[1] *Ājīvikas*, the taxes payable by barbarians and outcasts (*nāhala*), *mukhadharakas* (mask-actors)[2], water-diviners (*kupadarśakas*), weaver (*tantra vāya*), taxes on gambling (*dyūta*), marriage (*vivāha*), barbers (*nāpita*), and the taxes or tithes payable by the artisans enjoying the privilege of *sarvaparihāra* (?) and such other taxes that belong to me, have been given to this (Brāhmaṇa) as *brahamadeya*.' The interpretations of many of the terms offered here are doubtful. N.P. Chakravarty[3] is of opinion that in *l*.18 tax levied for the maintenance of certain officers is indicated. Accordingly, he takes *paṭṭakara* not in the sense of 'silk-weaver' but in that of *paṭṭalekhin* or writer of official documents and *prāvarañchara* in that of *sañcharantaka* of the Uruvupalli grant and *sañchārin* of other early records. He is further inclined to take *rajju* in the sense of *rajjuka*[4]. *Āpaṇ-ājīvika* has been interpreted by him as 'those who live by shops', *i.e.* shop-keepers in general as distinguished from smiths and leather-workers (*loha-charmakār-āpaṇa*). Finally, *kupadarśaka*, according to him, refers to 'an inspector of wells'. But in view of the fact that many of the terms are met with here for the first time, an attempt to interpret them is bound to remain doubtful unless these are confirmed by other sources. In any case it is amply clear that the existing tax-structure, as suggested by the Vilavatti grant, covered all classes of people from barbers to barbarians. Even social functions like marriage or pastimes like gambling[5] were exploited to yield revenue to the royal exchequer.

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[1] According to the editor of the grant in *EI*, Vol. XXIV, if *rajjupratihārāpaṇa* be construed as one compound, it would indicate 'booths of rope-jugglers or dancers'.

[2] The editor thinks that it may also refer to a class of self-mortifying devotees known as *mukhenādāyin*.

[3] *EI*, Vol. XXIV, p. 298n 5.

[4] See *supra*.

[5] Kauṭilya (*AS*, III, 20) says that the superintendent of gambling shall take not only 5% of the stakes won by every winner and the hire payable for supplying dice and other accessories of dice play, but also a fee chargeable for supplying water and accommodation, besides the charge for license.

4

Agriculture

INDIA was always famous to the foreigners for the fertility of her soil. Megasthenes noted with wonder that the country produced fruits and grains twice a year.[1] Eratosthenes also speaks of "the winter sowing and the summer sowing, and likewise of rains"; he further says that "no year is without rain in both seasons, so that, from this fact, the country has good seasons, never failing to produce crops."[2] Diodorus[3] makes a similar statement, "Since there is a double rainfall in the course of each year, one in the winter season . . . and the second at the time of the summer solstice . . . the inhabitants of India almost always gather in two harvests annually." Speaking of South India, Aristobulus remarks that, though it was similar to Arabia and Ethiopia, it surpassed them in the copiousness of its waters, and that, therefore, its air was humid and proportionately more nourishing and productive.[4] Hiuen Tsang[5] also refers to the 'rich and fertile' soil of the states lying in Peninsular India and says that there were regular seed-time and harvest, fruits and flowers growing profusely.

The productivity of the soil was largely dependent on the regularity of rainfall. The importance of rain-water for growing crops was emphasised as early as in the days of the *Ṛigveda*. Thus a farmer prays,[6] "O *Kshetrapati*, bestow on us sweet and pure butter-like and delicious and copious rain, even as cows give milk. May the crop be sweet to us; may the skies, the rains, the air be sweet and may the Lord of the Field for us be full of sweetness, and may we follow him uninjured." The *Arthaśāstra* gives a table of the quantity of rainfall in different parts of the country :[1]

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[1] R.C. Majumdar, *Classical Accounts of India*, p. 252.

[2] *Loc. cit.*

[3] *Ibid.*, p. 233.

[4] *Ibid.*, p. 254.

[5] Watters, *op. cit.*, Vol. I, p. 198.

[6] IV, 57.

In the country of Jāṅgala	16 *droṇas*
In moist countries (*anūpa*)	8 *droṇas*
In the country of the Aśmakas	13½ *droṇas*
In Avanti	23 *droṇas*
In the Western Countries (*aparānta*)	an immense quantity
In the borders of the Himalayas	-do-
In the countries where water channels are utilised in agriculture	-do-

Much dignity was attached to those who took cultivation as their occupation, for "Life depends upon agriculture . . . a man may possess fine dress, gold and gems, and yet have to starve or beg food from farmers. It is agriculture alone that can save him from the abject state of begging."[2] Strabo says, "The farmers, who were incidentally the second caste in the society, are not only the most numerous, but also the most highly respected, because of their exemption from military service and their right of freedom in their farming; and they do not approach a city, either because of a public disturbance or on any other business ; at any rate, it often happens that at the same time and place some are in battle array and are in peril of their lives against the enemy, while the farmers are ploughing or digging without peril, the latter having the former as defenders."[3] The *Rāmāyaṇa* tells us how the Vānara host in their advance towards Laṅkā along the wooded Sahya mountain witnessed many lotus-ponds and beautiful lakes but scrupulously avoided the cities and countryside (*janapada*) out of fear for Rāma's iron discipline.[4] A Pāṇḍya inscription of the 9th century A.D. records the agreement between a local chieftain and the headman of a village or a group of villages, according to which the former would try in times of war to avoid destroying the villages or their property, failing this, he would pay a compensation of 100 *paṇams* for any injury to a cultivator and 500 *paṇams* for the destruction of every village.[1] All these are positive proofs to show that protection of the cultivators was considered as of primary importance in all parts of the country throughout different periods of history.

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[1] *AS*, II, 24.

[2] *Khanār vachana* quoted by J.C. Ray, *Ancient Indian Life*, pp. 29-30.

[3] Majumdar, *op. cit.*, p. 264.

[4] *evam te hariśārdūlā gachchhanti baladarpitāḥ | apaśyanta giriśreshṭhaṁ sahyaṁ drumaśatākulam || sarāṁsi cha praphullāni tatākāni varāṇi cha | rāmasya śāsanaṁ jñātvā bhīmakopasya bhītavat || varjayānnagarābhyāsāṁstathā janapādānapi ||* Laṅkā., IV. 37-38.

As we have seen before, the classical writers are unanimous in their view that the Indians gathered two harvests annually. When the statements of the classical writers are primarily with reference to the Punjab valley and the Ganges doab, there is at least one inscription to suggest that harvesting twice a year was also current in some parts of the Deccan. Thus an inscription of the Gaṅga king Mādhavavarman records the grant of certain lands which were growing two crops in the year, one in autumn and the other in summer.[2] All lands, however, were not suitable for two crops, and the same inscription refers to some other plots of land which yielded only one crop in autumn. From a verse in the *Gāthāsaptaśatī*[3], autumn appears to have been the general harvesting time as at the present day. As to tillage, Parāśara gives an illuminating account : "Ploughing should be carried on by healthy men with healthy bullocks. No spot of the field should remain untilled. Ploughing once only is something but twice is better, and ploughing five times gives the best result. Ploughing done in Māgha yields gold, in Phālguna silver, in Chaitra copper, in Vaiśākha as much paddy as the seeds used, in Jyaishṭha earth, in Āshāḍha mud, and in Śrāvaṇa nothing."[4] Here we have the whole theory of tillage in a nut-shell and our cultivators all over India have been following it ever since.

The peculiar physical features of the Deccan leading to a variety of climate and soil resulted in evolving various kinds of agricultural products. In the inscriptions as well as in literature, we have reference to a large number of crops that were grown in the region. A spurious copper plate grant of Chālukya Pulakesin I makes mention of Alaktaka as "abounding in *śāli* and *vrīhi* and groves of sugar-canes and chick-peas and *priyangu*-plants and *varaka*-beans and *udāraka* and *śyāmaka* and wheat and many other kinds of grain."[1]

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[1] See *SRENI*, pp. 106f.

[2] *EC*, Vol. XVI, p. 77, No. 78.

[3] VII, 89.

[4] Quoted by Ray, *op. cit.*, p. 32.

Of all the agricultural products, rice was the principal food-grain. It was produced so abundantly that rice was exported from the ancient sea-port of Barygaza.[2] About the manner of paddy cultivation in India, Starbo[3] writes : "They (Nearchos and Aristobulus) add that the land, while still but half dried is sown and though scratched into furrows by any common labour, it nevertheless brings what is planted to perfection, and makes the fruits of good quality. Rice, according to Aristobulus, stands in water, and is sown in beds. The plant is four cubits in height, has many ears, and yields a large produce. The time of its in-gathering is about the Pleiades, and it is husked in the same way as barley . . .Megillos says that rice is sown before the rains, and that it does not require to be irrigated and transplanted as it is supplied with abundance of water." At least three varieties of paddy were grown in the Deccan, viz. *śāli*[4], *vrīhi*[5] and *śyāmaka*[6]. It appears from the *Bṛihaspatisaṁhitā* that *śāli* was grown at first in a nursery bed and then was transplanted in the field.[7] Kauṭilya[8] prescribes the sowing of *śāli* and *vrīhi* seeds at the commencement of the rainy season. He says that *vrīhi*, ripens in the rainy season while *śāli* matures in winter. In the *Gāthāsaptaśatī*,[9] the harvesting season of *śāli* is stated to have been autumn. The difference between *śāli* and *vrīhi* is not only in their time of harvesting, but also in their qualities. According to the *Bhāvaprakāśa*[1], while husked *śāli* is white, hușked *vrīhi* is not. The latter, though sweet, is less digestible than the former, and like millet which is insipid, consumed by the poor. According to Charaka,[2] *śāli* is the best quality rice, while *vrīhi* is the worst. In the *Bhāvaprakāśa*[3], *śyāmaka* is mentioned as belonging to the *kudhānya* or *kshudra-dhānya* group. In the *Milindapañha*[4], we have another variety of rice known as *kumudabhaṇḍikā*. It was grown in Aparānta in a single month and was the food of servants and slaves. The *Uttaracharita*[5] indicates that the sages dwelling in the Daṇḍaka forest cultivated *nivāra* a kind of wild rice in the field adjoining their hermitage. In the *Raghuvaṁśa*[6] also we see the ascetics growing rice in the land near the *āśrama*.

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[1] *IA*, Vol. VII, p. 215; cf. *vāshpachchhannānyaraṇyāni yava-godhūmavanti cha | śobhantebhyudite sūrye nadadbhiḥ krauñchasārasaiḥ || kharjūrapushpakṛitibhiḥ śirobhiḥ pūrṇataṇḍulaiḥ | śobhante kiñchidālambāḥ śālayaḥ kanakaprabhāḥ || Rām.*, Araṇya, XVI, 16-17.

[2] *The Periplus*, sec. 14.

[3] *Strabo*, XV, I, 18.

[4] *GS*, I, 9; VI, 67-68; VII, 89; *Daśa.*, IV. Kale's trans. p. 190 ; *PIHC*, 1941, p. 221.

[5] *IA*, Vol. VII, p. 215.

[6] *Loc. cit.*

[7] See *EC.*, Vol. XVI, p. 77, no. 78.

[8] *AS*, II, 24.

[9] VII, 89.

Wheat (*godhūma*)[7] was another important foodgrain. The quality of wheat produced in the Deccan attracted the attention of the European travellers. Thus Terry speaks of the wheat of Surat as "more full, and more white than ours, of which the inhabitants make such pure well-relished bread, that I may say of it, as one sometimes spoke of the bread made in the bishoprick of Leige, it is *panis pane melior*, bread better than bread", and Frayers mentions the Deccan as possessing "wheat as good as the world affords."[8] Schoff[9] thinks that it was introduced into India from Egypt. But, according to Jayaswal, the linguistic evidence is against this view. It came from Persia or from Mesopotamia through Persia. Its Sanskrit name, *godhūma*, is identical with the Persian *gandum*.[10] De Candolle holds that wild wheat had been discovered in the Indus Valley and observes, "Strabo (ed. 1707, ii. 1017), born 50 B.C. says that, according to Aristobulus, a grain very similar to wheat grew wild upon the banks of the Indus on the 25th parallel of latitude".

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[1] See Ray, *op. cit.*, p. 62.
[2] See *Ibid.*, p. 65.
[3] See *Ibid.*, p. 67.
[4] See Vol, XXXVI, p. 148.
[5] I, 25; III, 25.
[6] I, 52.
[7] *IA*, Vol. VII, p. 215; *Rām.*, Araṇya, XVI, 16.
[8] See Watt, *The Commercial Products of India*, p. 1083.
[9] *The Periplus*, p. 76.
[10] See Buch, *Economic Life in Ancient India*, p. 90.

But, as pointed out by Watt, the wild plant referred to by Strabo might have been a kind of wild rice (*oryza coaractata*) resembling wheat and grown extensively in the Indus Valley.[1]

The pulses included *varaka*-beans[2], *chaṇaka* (*cicer aric tinum*)[3] and *tuvarī*[4]. The medical lexicon *Rājanighaṇṭu*[5] describes *varaka* (*phraseelus tribolus*) as a large *priyaṅgu*. Probably it is the *māruā* of Bengal and Bihar, *maṇḍiā* of Orissa, and *rāgi* of South India, *i.e. eleusine coracana*. The word *varaka* could be easily changed into *varuka* and then into *māruā*. It is essentially a food-crop of Southern India. The name *rāgi* does not occur in ancient Sanskrit. It is found in the *Rājanighaṇṭu*, composed later than 1600 A.D. According to Kauṭilya,[6] *varaka* seeds should be sown before the regular rains.

Priyaṅgu (panic seeds),[7] a kind of millet, was, according to Suśruta of four colours, *viz.*, black, red, yellow and white. It is also known in later Sanskrit as *kaṅgu*, *kaṅgunī*.[8] The grains are said to be the smallest of all millets (about 20 going to an inch in length and 14 in breadth), clean, shining and yellowish. It was another foodgrain of the hermits, and is still regarded as 'pure'.[9] It seems from Bāṇa's[10] description of the Vindhya forest that *lavaṅga* (clove) and *elā* (cardamom) were grown in the Deccan.

Of the various kinds of oil-seeds, *tīla* (sesame)[11] was extensively cultivated. The region of the Narmadā (Ariace) yielded sufficient quantity of sesame and sesame oil was exported from Barygaza.[1] The commercial value of sesame-oil is shown by the development of the guilds of *tīlapeshakas* (oil pressers) in the Deccan.[2] *Sarshapa* (mustard)[3] was another important oil seed. The *Gāthāsaptaśatī*[4] refers to the cultivation of the *rājikā* variety of mustard in the Godāvarī valley. In the *Amarakosha*,[5] it is described as dark, very pungent, causing sneering and fit for Asuras or non-Aryans. *Eraṇḍa* (castor) was another variety of oil seed.[6]

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[1] Watt, *op. cit.*, p. 823.

[2] *IA*, Vol. VII, p. 215.

[3] *Loc. cit.*, *GS*, VI, 57.

[4] *GS*, IV, 58.

[5] Quoted by Ray, *op. cit.*, p. 62.

[6] *AS*, II, 24.

[7] *IA*, Vol. VII, p. 215 ; *Mbh.*, Vana, 89.

[8] See Ray, *op. cit.*, p. 66.

[9] *Ibid.*, pp. 59-60.

[10] *Kādambarī*, ed. Haridas Siddhantabagis Bhattacharya, p. 62. Cardamom is indigenous to West and South India, growing in the rich moist forests of the hilly tracts of Kanara, Mysore, Coorg, Wynaad, Travancore and Madura. Mollison speaks of the cultivation of cardamom in the betel-palm and pepper gardens of the Sirsi and Siddapur Taluks of the North Kanara District (see Watt, *op. cit.*, pp. 511, 515).

[11] *GS*, I, 8. VII, 93.

Yava, a kind of cereal, grew in the Godāvarī valley.[7] The *Bhāvaprakāśa*[8] refers to five kinds of *yava, viz.*, the common *yava* with sharp awn (*Hordeumvulgare*) ; the awnless *yava* (*H. vulgare, nudum*), *atiyava*, very large (*H. vulgare, hexastichon*) ; *tokma*, large, green and awnless, *i.e.* oats. The last is *svalpa-yava*, 'inferior *yava*'. The reference to *jīraka* in one inscription[9] shows that cumin seed was also cultivated in the Deccan.

Among the fibrous produces, the most important was cotton (*kārpāsa, phalia*).[10] Even today, the *regar* or black soil in the valleys of the Tāptī, Godāvarī, Narmadā and Kṛishṇā and in Kathiawar, M.P. and the north-west of Maharashtra is the main cotton-growing soil in India. That cotton was grown there from very early times is indicated by the *Arthaśāstra*.[11] In a list of important cotton cloth manufacturing centres, it includes Aparāntaka (the Northern Konkan), Kaliṅga and the Mahisha country on the banks of the Narmadā. The importance of Aparānta in the production of cotton is also suggested by the *Mahābhārata*[12] which says that the people inhabiting the western country (Aparānta) presented the Pāṇḍavas with smooth white cotton garments. In the *Hud ūd al-'Ālam*,[1] the Orissa (ŪRSHIN) region to the north of Ganjam and south of Rio de Paluro (S.M.ND.R) and Andhra (ANDHRĀS) are described as producing large quantities of good cotton which grew on trees yielding their produce (*bar diḥadh*) during many years. The author of the *Periplus*[2] refers to the export of cotton, raw and manufactured, to the Greek world from Ariace and Barygaza. "The Sanskrit word *Karpasa-i*, often rendered cotton, is connected with the Greek and Latin *carpasos* or *carbasus*, and denoted a fine textile. That name was also known to the Phoenicians and Hebrews but whether it originated in India or was imported there would be hard to say."[3] Indian cotton was highly praised by the classical writers. Herodotus[4] describes as a kind of wool, better than that derived from sheet, the fruit of trees growing wild in India. Arrian further says that the cotton of India is whiter and brighter than that of any other country.[5] The *Amarakosha*[6] mentions four varieties of cultivated cotton-plant. These were named *tuṇḍikerī*, *samudrāntā*, *kārpāsī and vadara*. Besides these, there was the wild species named *bhāradvājī*. It is now impossible to identify the five species ; though all belonged to the genus of gossypuim, there have been changes in the cultivated forms so that the number of recognisable varieties has become large. The fruit of *tuṇḍikerī* had a sharp point at the apex. It is of some interest to note here that, in the Purāṇas, there is a clan named Tuṇḍikera, also described as Kuṇḍikera, Tauṇḍikera and Tuṇḍakera[7]. Is there any relation between the Tuṇḍikera people and the *tuṇḍikerī* variety of cotton ? The species which was cultivated in the western part of India near the sea was known as *samudrāntā*. The fruit of *vadara* was globose like that of *zizyiphus* (*kola* fruit). Kārpāsī was the name of the common species and also denoted all the others.[8]

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[1] *The Periplus*, sec. 14.

[2] Lüders' List, No. 1137.

[3] *Daśa.*, VII (Kale's trans. p. 131).

[4] II, 71.

[5] II, 9, 19.

[6] *GS*, III, 57.

[7] *Ibid.*, V. 12 ; *Rām.*, Araṇya, XVI, 16.

[8] Quoted by Ray, *op. cit.*, p. 67.

[9] *EI*, Vol. XXVIII, p. 61.

[10] *GS*, IV, 59, 60 ; VI, 49.

[11] II, 11.

[12] Sabhā., 50.

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[1] Ed. Minorsky, pp. 87, 241.

[2] Secs. 6 and 14.

[3] Watt, *op. cit.*, p. 570.

[4] *Hist.* III, 106.

[5] Watt, *op. cit.*, p. 571.

[6] II, 4, 4.

[7] Sircar, *Studies in the Geography of Ancient and Medieval India*, p. 35 and n.

[8] Cf. Ray, *op. cit.*, p. 125.

In addition to cotton, hemp (*śaṇa*)[1] was also cultivated for fibre. Suśruta[2] speaks of *śaṇa* fibre as fit for sewing up wounds. In the *Arthaśāstra*[3] *śaṇa* is a wild fibrous plant. Manu[4] enjoins the use of *śaṇa* for the lower garment of the Brāhmaṇa students, the sacred thread of the Kshatriyas, and the girdle of the Vaiśyas at the time of initiation.

Sugarcane (*ikshu*) was cultivated in some areas of the Deccan.[5] The spurious copper plate grant of Pulakeśin I refers to groves of sugarcane in the village of Alaktaka. In the *Haṁsasandeśa* of Venkaṭanātha, its cultivation in the border land of the Kannada and Telugu countries is noted.[6] Eratosthenes[7] speaks of these 'large reeds' as 'sweet both by nature and by heating'. These 'tall reeds' producing honey without the aid of bees interested the classical writers.[8] From the mention of *guḍa-yantrika* in the *Gāthāsaptaśatī*,[9] it appears that the juice of sugarcane was extracted with the help of a machine. The juice was then boiled to produce molasses. The *Śilappadikāram*[10] refers to the "rising fumes of the ovens, in which the sugarcane juice was being boiled." The Hirahadagalli plates[11] refer along with other immunities to *a-loṇa-guḷa-chchhobha* (*i.e. a-lavaṇa-guḍa-kshobha*). As the word *guḷa* is mentioned along with *loṇa*, it seems that either the manufacture of sugar was a royal monopoly or the state collected a revenue on its manufacture.

The cultivation of *haridrā* (turmeric) was also known. It was used not only for cooking purposes but also as cosmetic.[12]

Of the fruit trees, coconut was of considerable importance. In the Nasik inscriptions, the Śaka chief Ṛishabhadatta is stated to have donated a number of coconut-palms.[1] Coconut was chiefly grown in the coastal districts of the Peninsula. Kālidāsa[2] states that, in the course of his *digvijaya*, Raghu reached the country of Kaliṅga where his brave soldiers drank the sweet juice of coconut. Cosmas also refers to the large Indian nuts.[3] In a graphic account of Indian coconut Ibn Battuta[4] describes its "fibre-like hair, out of which they make ropes, which they use instead of nails, to bind their ships together, and also as cables". The traveller lived on the nourishing pulp inside the green nut and its deliciously sweet liquid for a year and a half when he was in the Maldive Islands. He saw how the Indians prepared *honey* from the sap collected by tapping a fruit-growing coconut-tree. Merchants not only of India, but also Yemen and China "buy it and take it to their own countries, where they manufacture sweetmeat from it". He also refers to the milk made by steeping the contents of the nut in water. Moreover, "ripe nuts are peeled and the contents dried in the sun, then cooked in cauldrons and the oil extracted. They use it for lighting and dip bread in it, and the women put it on their hair." To this we may add some other products, viz., charcoal from the shell, sugar and wine from the sap, some rare silky cloth made from the fluffier portions of the husk, and the numerous uses of the fronds and the trunk for construction of shelters and houses, fishing boats, outriggers etc.[5]

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[1] *GS*, I, 9.

[2] Cf. Ray, *op. cit.*, p. 119.

[3] II, 17.

[4] II, 41, 42, 44.

[5] *GS*, VI, 41.

[6] *PIHC*, 1941, p. 221.

[7] Eratosthenes quoted by Strabo XV, I, 20.

[8] Cf. Nearchus quoted by Strabo, XV, I, 20.

[9] VI, 54.

[10] X, p. 163.

[11] *EI*, Vol. I, pp. Iff.

[12] *GS*, III, 46.

The palmyra palm[6] (*borassus*) was another very useful plant. A Junnar inscription[7] refers to the grant of a field for plantation of palmyra palms. In a Nagarjunakonda inscription[8] also plantation of palmyra palms is recorded. Hiuen Tsang[9] saw a wood of *tāla* trees above 30 *li* in circuit to the north of the

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[1] Lüders' List, No. 1133 ; *JBBRAS*, Vol. VII, p. 50, No. 17 ; *EI*, Vol. VIII, No. 12.

[2] *tāmbulīnāṁ dalaistatra rachitāpānabhūmayaḥ/nārikelāsavaṁ yodhāḥ śātravañchapapuryaśaḥ//Raghu*, IV, 42.

[3] Mc Crindle (tr.), *Christian Topography of Cosmas* (or *Cosmas Indicopleustes*), XI, p. 362.

[4] Quoted by Kosambi, *Introduction to Indian History*, p. 307.

[5] Kosambi, *loc. cit.*

[6] *GS*, IV, 98.

[7] Lüders' List, No. 1163.

[8] *EI*, Vol. XXXIV, p. 203.

[9] Watters, *op. cit.*, p. 237.

Konkana capital. It was chiefly grown in the coastal area. Kālidāsa refers to the sea-coast which was blackened with the palmyra-forest (*tamāla-tālīvanarāji-nīlā ābhāti velā*).[1] In the *Svayambara-sabhā*, Indumatī was told that by marrying the Kaliṅga king she could pass away her time in the sea-coast wooded with palmyra-palm (*anena sārdhaṁ vihārāmburāśestīreshu tālīvanamarmareshu*).[2]

Areca-palm or betel-nut plant, like the coconut palm, grew in the coastal districts.[3] Kālidāsa, while describing the march of Raghu, says that after defeating the king of Kaliṅga he proceeded towards the south along the coast which was adorned with betel-nut plants.[4] Bāṇa, in his *Kādambarī*[5], refers to the areca plantations in the Vindhya forest. Besides gardens exclusively devoted to its cultivation, areca-palm was also planted in the lawn of the dwelling houses.[6]

As a delicious fruit, mango (*āmra*) was highly favoured by the people. In the *Gāthāsaptaśatī*, frequent reference is made to mango and mango-tree.[7] A Junnar inscription[8] records the donation of a field for the plantation of mango-trees.

Jambu (rose-apple) was another tree, which was cultivated on commercial basis.[9]

Plantain (*kadalī*) was also grown in the Deccan.[10] The *āśrama* of Rāma in the Daṇḍakāraṇya was surrounded by this plant.[11] Green foliage of plantain in the palace-garden may be witnessed in the Ajanta paintings.[12]

Pepper seems to have been another widely cultivated plant.

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[1] *Raghu*, XIII, 15 ; cf. also IV, 34.

[2] *Ibid.*, VI, 57.

[3] *Ibid.*, XIII, 17.

[4] *tato velātaṭenaiva phalavatpūgamālina/agastyācharitāṁāśāmanaśāsya jayoyayau//*IV, 44.

[5] ED, Haridas Siddhantabagis Bhattacharya, p. 62.

[6] Cf, Yazdani, *Ajanta Frescoes*, Part, III, Plates LXVI and LXVII.

[7] I, 62 ; IV, 31, 96 ; V, 99 ; VI, 33, 85, 95 etc. ; also *EI*, Vol. XXVIII, p. 71.

[8] Lüders' List, No. 1164.

[9] *Ibid.*, Nos. 1163 and 1166.

[10] *Dhāthāvaṁsa*, 40.

[11] *etadrāmāśramapadaṁ dṛiśyate kadalīvṛitam. Rām.*, Araṇya, XLII, 14. See also *Kādambarī*, ed., Haridas Siddhantabagis Bhattacharya, p. 71.

[12] Yazdani, *op. cit.*, Plate LXVI.

Watt[1] says that it is a perennial shrub, native of the hotter parts of India from Nepal eastwards to Assam, the Khasia hills and Bengal, westward to Bombay, and southward to Travancore and Ceylon. Bāṇa[2] refers to the *kurula* birds biting with their beaks the leaves of the pepper plants grown in the Vindhya forest. Indian pepper had a good market in the western world. The *Periplus*[3] records the export of long pepper from Barygaza.

In a Nagarjunakonda inscription it is stated that an *akshaya-nīvi* was created apparently for the maintenance of the establishment of Lord Noḍagīśvarasvāmin. Among the four guilds in which the money was invested, one was called *panika-seni* (Skt. *pārṇika-śreṇī*), *i.e.*, the guild of the sellers or growers of betel-leaves.[4] The development of the guilds of betel-leaf growers undoubtedly suggests its demand among the people. The *Śilappadikāram*[5] refers to a street in Puhar where dealers in betel-leaves resided. This leaf was cultivated extensively in the coastal districts. The betel-leaves grown in Kaliṅga appear to have been of large size, for Raghu's army after their victory over the Kaliṅga king drank coconut-juice in betel-leaves.[6] Bāṇa[7] speaks of the areca-palms in the Vindhyāṭavī entwined with betel-vines. It is not unlikely that the foreign traders who, according to the *Rājataraṅgiṇī*,[8] sold betel-leaves in Kashmir, came from the south. That there was close contact between the south and Kashmir may possibly be inferred from the reference to Kashmir in a Nagarjunakonda inscription.[9] It was and still is a custom in India to offer betel-leaf to any guest. Thus, an inscription[10] of much later date records that it was a traditional custom to offer on behalf of the government of any state betel-leaf, dress and allowance of food to the traders coming from different countries.

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[1] *Op. cit.*, p. 891.

[2] *Kādambarī*, ed., Haridas Siddhantabagis Bhattacharya, p. 61.

[3] Sec. 49.

[4] *EI*, Vol. XXXV, p. 5.

[5] V, p. 111.

[6] *Raghu.*, IV, 42.

[7] *Kādambarī*, ed., Haridas Siddhantabagis Bhattacharya, p. 62.

[8] VII, 194.

[9] *EI*, Vol. XXXIII, p. 250, *l*. I.

[10] *EC*, Vol. XII, p. 169.

Besides those mentioned above, various kinds of trees were cultivated for different purposes. Thus, *śāla* (*shorea robusta*) was grown for their hard timber and, as it was of considerable value, plots of land were earmarked for its plantation.[1] *Madhūka*[2] (*bassia latifolia*), popularly called *mahua*, was reared apparently for the manufacture of liquor. *Karañja* was another tree for the plantation of which plots were donated.[3]

The *Periplus*[4] informs us that lac was cultivated in the country of Ariace. As Lassen[5] thinks, Skt. *lākshā* is connected with *rāga* from the root *rañj*, 'to dye'. The lac gum is a substance produced on the leaves and branches of certain trees by an insect both for the covering for its egg and the food for its young. It yields a fine dye. Bhagawanlal[6] points out that the colour is called *alaktaka* ; it is used by women for dyeing the nails and feet.

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[1] Lüders' List, No. 1163.

[2] *GS*, II, 3, 4 ; VII, 39.

[3] Lüders' List, Nos. 1162, 1166.

[4] Sec. VI.

[5] See, Buch, *Economic Life in Ancient India*, p. 239.

[6] *Loc. cit.*

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Forests

THE Deccan was always rich in her vast forest resources. A recent survey shows that even today about 61 p.c. of the total forest area is lying in Peninsular India.[1] The *Gāthāsaptaśatī*[2] bristles with references to the forest along the Vindhya range. The *Mahābhārata*[3] refers to the banks of the Narmadā as being adorned with groves of *priyaṅgu*, mango and *vānīra*. The Vindhya forest apparently extended as far as the neighbourhood of Magadha for the Magadhan king Rājahaṁsa, after being defeated by the Mālava king Mānasāra, is said to have taken refuge along with his family and retinue in this forest.[4] Bāṇa[5] says that the Vindhyāṭavī, which was the ornament of Madhyadeśa and the waist girdle of the world, extended from the eastern to the western ocean. In an inscription[6] of Aśoka, we find mention of a people called Āṭavikas, who were probably the dwellers of the Vindhya forest. From epigraphic and literary evidence it appears that a number of forest kingdoms (*āṭavika rājyas*) existed at the foot of the Vindhya mountain. Raychaudhuri[7] thinks that the *āṭavika rājyas*, which surrendered to

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[1] Cf. Indian Forest Statistics, 1953-54.

[2] I, 32, 70, 77; II, 17, 22; III, 30, 87; V, 94 ; VI, 78, 88; VII, 70.

[3] Vana, 50.

[4] *Daśa.*, I, Kale's trans. p. 6.

[5] *asti pūrvapāra-jalanidhi-velāvalagnā-madhyadeśālaṅkārabhūta mekhaleva bhuvaḥ.*

[6] RE, XIII, 7 ; *PHAI*, p. 538 ; *Kādambarī*, ed., Haridas Siddhantagagis Bhattacharya, p. 61.

[7] *PHAI*, p. 538.

Samudragupta, included the realm of Ālavaka (Ghazipur) as well as the forest kingdoms connected with Dobhālā or the Jabalpur territory.[1] In one epigraph a place called Vaṭāṭavī[2] is mentioned while another refers to Sahalāṭavī.[3] Mahākāntāra, a forest kingdom subdued by Samudragupta, is apparently a wild tract which probably included Kāntāra, a place situated between Venvātaṭa (the valley of the Wainganga) and Prāk-Kosala (Eastern Kosala).[4] It has been identified with the Jeypore region in Orissa.[5] From the description of Hiuen Tsang, the whole of the Kaliṅga country seems to have been encircled by the extension of the Vindhya forest.[6] According to the *Records*, from the Ota (Odra) country the Chinese pilgrim had to travel through a forest for over 1200 *li* to the Kung-yu-to (Koṅgoda) country. From there the pilgrim travelled through jungle and forest dense with huge trees, south-west for 1400 or 1500 *li* to Kaliṅga. From the Kaliṅga country, he travelled north-west for above 1800 *li* through hills and woods to south Kosala. From there he travelled towards the south (according to the *Life*, south-east), through a forest, for above 900 *li* to the An-to-lo (Andhra) country. Thence the pilgrim continued his journey to the south through woods and jungles for over 1000 *li* and reached the Te-na-ka-che-ka (Dhānyakaṭaka) country. From this place, he went to the Far South which was also covered by dense forests. From there, he went north (north-west according to the *Life*) into a jungle, infested by troops of murderous highwaymen, and, after a journey of above 2000 *li*, he reached the Kung-kin (or Kan)-na-pu-lo (Koṅkaṇapura) country. North-west from this, he entered a great forest ravaged by wild beasts and harried by robbers, and, travelling 2400 or 2500 *li* he came to the Mo-ha-la-ch'a (Mahārāshṭra) country. The testimony of Hiuen Tsang gives us an idea about the vast expanse of the South Indian forests. The jungle between the Dravida and the Kannada countries, referred to by Hiuen Tsang, may be identical with 'the inaccessible forest stretching to the gates of Śrīparvata' mentioned in the Talgunda inscription of the Kadamba king Śāntivarman.[1] The forest between Kung-kin (or Kan)-na-pu-lo and Mahārāshṭra corresponds to Varāhamihira's[2] *Mahāṭavī*, 'the great forest', which lay between Karṇāṭa and the countries called Chitrakūṭa and Nāsikya (Nasik). The forest between the Kaliṅga and the Andhra countries reminds one of the *Kaliṅgāraṇya* of the Milindapañha[3], which extended from the Mahānadī to the Godāvarī.[4] In many parts, these forests were very dense and the *Viñjhāṭavī* of the Buddhist texts[5] was so dense that no human habitation existed there (*agamākam araññam*).[6] Similarly, the jungle around the Pakhal Lake in the Warangal District was so thickly wooded that a 'squirrel could reach Bhadrāchalam from the neighbourhood of Pakhal by leaping from tree to tree'.[7]

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[1] See also *CII*, Vol. III, p. 114; *EI*, Vol. VIII, pp. 284ff.

[2] *Loc. cit.*, also, *EI*, Vol. VII, p. 126.

[3] Lüders' List No. 1195; *PHAI*, p. 538m.

[4] *PHAI*, p. 538.

[5] *JAHRS*, Vol. I, p. 228.

[6] Watters, *op. cit.*, pp. 194, 196 and 198.

The forests, which now stretch from Bastar along the banks of the Godāvarī to the Seuna country embracing the Daulatabad area and part of the Nasik District, are known from epigraphic records and the *Vratakhaṇḍa* of Hemādri[8] to be remnants of the famous *Daṇḍakāraṇya* that covered the valleys of the Godāvarī and the Pampā or Tuṅgabhadrā in the days of the *Rāmāyaṇa*.[9] This forest is said to have extended 500 *yojanas* towards the south beginning from the Vindhyas.[10] The Cintra *Praśasti*[11] has a pointed reference to the woodland (*vanasthalī*) on the banks of the Godāvarī. The *Tuṅgakāraṇya* of the Vanaparvan of the *Mahābhārata*[12] evidently refers to a part of the *Daṇḍakāraṇya* and appears to have derived its name from the river Tuṅga. This forest was also known to Bāṇabhaṭṭa[1] who in his *Kādambarī*[2] speaks of forests and groves girt by the river Godāvarī, and the lake called Pampā. To the west of Janasthāna, this forest was known as the Chitrakuñjavat.[3] The *Daṇḍakāraṇya* is said to be the seed (i.e. source) of *dharma* or *mukti* and the country embraced by the Gautamī (i.e., Godāvarī) is the holiest.[4] According to the *Devipurāṇa*[5], it was one of the nine sacred forests of India. The *Padma Purāṇa*[6] includes it in a list of holy places. The tracts of the Daṇḍaka forest had numerous watering places, hermitages, hills, streams, lakes etc.[7] The Jaina *Nīśithachūrṇī*[8] contains a strange story about the burning of this forest to ashes. As a result not even a blade of grass is said to have grown there.

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[1] *EI*, Vol. VIII, pp. 31ff.

[2] *Bṛihatsaṁhitā*, XIV, 13.

[3] Ed, V. Trenckner, p. 130.

[4] Rapson, *Ancient India*, p. 116. Cunningham (*Ancient Geography of India*, p. 591), however, says that it extended from the Godāvarī in the south-east to the Goliya branch of the Indravatī river in the north-west.

[5] *Mahāvaṁsa*, XIX, 6; *Dīpavaṁsa*, XVI, 2.

[6] *Sāmantapāsādikā*, III, 655.

[7] See *EHD*, p. 7.

[8] *EI*, Vol. XII, p. 246; Bhandarkar, *Early History of the Deccan*, p. 247.

[9] According to Pargiter, *JRAS*, 1894, p. 242, the Daṇḍakāraṇya covered almost the whole region from Bundelkhand to the Kṛishṇā.

[10] *Rām*, Araṇya, XII, 57.

[11] *EI*, Vol. I, pp. 271ff.

[12] Vana, 85.

In these forests grew various kinds of trees some of which, particularly those on the slopes of the Vindhyas, were as high as almost touching the sky.[9] In a poetic description in his *Vāsavadattā*, Subandhu refers to the great mountain Vindhya "with its rocky sides cooled by breezes bearing the perfume of trickling yellow sandalwood broken and dragged down by the trunks of the elephants on its ridges ; with the monkeys eager to lick their paws wet with the sap of the palmyra-palm fruit which had been broken by exceedingly long fall ; with its borders fragrant with the perfume of the juice of various fruits sipped again and again by pairs of *chickors* dwelling near its overhanging cascades ; seeming to sustain a host of stars clinging to its summit since its peak was speckled by pearls fallen from the temples of must elephants which had been cloven by the edges of the sharp claws of thousands of bold lions."[10] As it appears from another source, the Malenad, or the hill country, near the upper reaches of the Tuṅgabhadrā abounded with 'giant tree trunks entwined with creepers of pythonic dimensions, whose massive arms are decked with a thousand bright blossoming orchids.'[1] The forest at the foot of the Chitrakūṭa mountain (i.e. the Kāmptānāthgiri in Bundelkhand), which from a distance appeared like dark cloud (*dūrānnīlameghanibhaṁ vanam*), was full of many shady and flower-and fruit-bearing trees.[2]

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[1] *Harshacharita*, ch I.

[2] (*Ed*) Haridas Siddhantabagis Bhattacharya, pp. 78ff.

[3] *Uttaracharita*, I, 30.

[4] *Brahma*, CLXI, 73.

[5] Ch. 74.

[6] Ch. 21.

[7] *Uttarcharita*, II, 14.

[8] XVI, 1113.

[9] *Daśa*, V, Kale's trans. p. 100.

[10] *Ed.*, Gray, pp. 67f.

āmrajambvasanairlodhraiḥ piyālaiḥ panasairdhalaiḥ|
aṅkonairbhavyatiniśairbilvatindūkaveṇubhiḥ||
kāśmaryārishṭavaraṇairmadhūkaistilakairapi|
vadaryāmalakairnīpairvetradhanvanabījakaiḥ||
pushpavadbhiḥ phalopetaiśchhāyāvadbhirmanoramaiḥ|
evamādībhirākīrṇaḥ śariyaṁ pushyatyayaṁ giriḥ||

The *Rāmāyaṇa* says that, when Rāma came to the neighbourhood of the hermitage of Agastya in the Daṇḍaka forest, he witnessed hundreds of wild trees :[3]

gamyatāmiti tenokto jagāma raghunadanaḥ|
yathoddishṭena mārgeṇa vanaṁ tachchāvalikayan||
nīvārān panasān sālān vañjulāṁstiniśāṁstathā|
chiribilvān madhūkāṁścha vilvanātha cha tindukān||
pushpitān pushpitāgrābhirlatābhirupaśobhitān|
dadarśa rāmaḥ śataśastatra kāntārapādapān||

At the advice of Agastya, Rāma went to the 'ever-flowering' (*nityapushpaśobhitakānana*) forest of Pañchavaṭī[4] near the river Godāvarī. It was, like other parts of the forest, adorned with various kinds of trees such as *śāla*, *tāla*, *tamāla*, *kharjura*,

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[1] Quoted in *EHD*, pp. 7f.

[2] *Rām.*, Ayodhyā, LCIV, 8-10.

[3] *Araṇya*, XI, 73-75.

[4] It seems from the *Rāmāyaṇa* (See *JRAS*, 1894, p. 247) and Bhavabhūti's *Uttracharita* (I, 25 ; II, 5, 23-25 ; III, 21.) that Puñchavaṭī where Rāma and Sītā lived for a long time was either in Janasthāna or bordering on it and was situated on the banks of the Godāvarī. A tradition recorded in several Purāṇas that the sage Bharadvāja caused heavenly trees and herbs to spring up at Govardhana on the Godāvarī in order to create a pleasure garden for Rāma's wife seems to refer to the story of Dāśarathi Rāma and his wife in exile. From the given position, Govardhana appears to have been the same as the village of that name near Nasik. This supports the location of Janasthāna and Puñchavaṭī in the Nasik region (See Bhandarkar, *Early History of the Dekkan*, p. 12 ; Sircar, *Studies in the Geography of Ancient and Medieval India*, p. 258).

panasa, tiniśa, nīvāra, punnāga, āmra, aśoka, tilaka, ketaka, champaka, syāndana, chandana, nīpa, lakucha, dhaba, aśvakarṇa, khadira, śamī, kiṁśuka, pāṭala etc.[1] The banks of the Pampā, a tributary of the river Tuṅgabhadrā,[2] was likewise richly wooded.[3]

pampātīraruhāścheme saṁsiktā madhūgandhinaḥ|
mālatīmallikā padma-karavīrāścha pushpitāḥ||
ketakyaḥ sindhuvārāścha vāsantyaścha supushpitāḥ|
matuliṅgāścha pūrṇāścha kundagulmāścha sarvaśaḥ||
chirabilvā madhūkāścha vañjulā vakulāstathā|
champākāntilakāśchaiva nāgavṛikahāścha pushpitāḥ||
padmakāśchaiva śobhante nīlāśokāścha pushpitāḥ|
lodhrāścha giripṛishṭheshu siṁhakeśarapiñjarāḥ||
aṅkolāścha kuraṇṭāścha chūrṇakāḥ pāribhadrakāḥ|
chūtāḥ pāṭalayaśchāpi kovidārāścha pushpitāḥ||
muchukundārjunāśchaiva dṛiśyante girisānushu|
ketakoddālakāśchaiva śirīshāḥ śiṁśapā dhabāḥ||
śālmalyaḥ kiṁśukāśchaiva raktāḥ kuruvakāstathā|
tiniśā naktamālāścha chandanāḥ syāndanāstathā|
hintālāstilakāśchaiva nāgavṛikahāścha pushpitāḥ||
pushpitān pushpitāgrābhirlatābhiḥ pariveshṭitān|
drumān paśyeha saumitre pampāyā ruchirān vahūn||

In these forests lived a variety of wild animals.[4] The *Periplus*[5] says that in Dachinabades, the inland country from the west towards the east was infested with "all kinds of wild-beasts—leopards, tigers, elephants, enormous serpents, hyenas, and baboons of many sort." It is significant that no reference to lion is made in the *Periplus*. The evidence of the *Gāthāsaptaśatī*[1] however, suggests that the forest along the banks of the Godāvarī was infested with lions. These beasts also roamed in the Vindhya forest.[2] Ma-twan-lin's record of a South Indian embassy, sent to China sometime about 510 A.D., throws some light on the fauna of Peninsular India. He says,[3] "In the time of Seuen-woo, of the dynasty of the Wei (A.D. 500-516), south India sent an ambassador to offer as presents some horses of a fine breed. This ambassador stated that the kingdom produced lions, leopards, panthers, camels, rhinoceroses and elephants." In the Malenad country, it is said, "birds of rare plumage flit from bough to bough, bisons and herds of elk browse on rich herbage, and the boom of langur monkeys echoes through the wilds."[4] The *Mahābhārata*[5] describes how Damayantī in search of her husband traversed the Vindhya forest infested with lion, wild buffalo, leopard, *ruru* deer, tiger, bear and deer. The forest at the foot of the Chitrakūṭa mountain was inhabited by various kinds of deer, birds, tigers, wolves (*tarakshu*) and bear.[6] When Rāma, Lakshmaṇa and Sītā were proceeding towards the Daṇḍakāraṇya, they witnessed a large number of wild creatures :[7]

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[1] *Rām*, Araṇya, XV, 16-18.

[2] Cf. *Bombay Gazetteer*, Vol. I, Pt. II, p. 369.

[3] *Rām.*, Kishkindhā, I, 76-83.

[4] A greater variety of wild animals and feathered game is not met with in any other part of India. Tigers and leopards are found everywhere, while bison and occasionally elephants are met with in the immense jungle about the Pakhal Lake. The high lands are inhabited by spotted deer (*cervus axis*), *nilgai* (*bosalaphus tragocamelus*), *śāmbar* (*cervus unicolor*), four-horned antilope, hog deer, and 'ravine deer' or gazelle. Wild hogs are found in the jungles, and innumerable herds of antelope in the plains. Hyenas, wolves, tiger-cats, bears, porcupine, hare, jackals, etc. are in great abundance. Of the varied species, of the feathered tribe in the former Hyderabad State, may be mentioned the grey and painted partridge, blue rock and green pigeon, sand-grouse, quail, snipe, bustard, peafowl, jungle-fowl, wild duck, wild geese, and teal of various kinds. The floricorn and flamingo are occasionally seen on the banks of the Godāvarī and Kṛishṇā (*Imp. Gaz.*, Vol. XIII, p. 233).

[5] Sec. 50.

tau paśyamānau vividhān śailaprasthān vanāni cha|
nadīścha vividhā ramyā jagmatuḥ saha sītayā||
sārasāṁschakravākāṁścha nadīpulinachāriṇaḥ|
sarāṁsi cha sapadmāni yutāni jalajaiḥ khagaiḥ||
yūthabaddhāṁścha pṛishatān madonmattān vishāṇinaḥ|
mahishāṁścha varāhāṁścha gajāṁścha drumavairiṇaḥ||
te gatvā dūramadhvānaṁ lambamāne divākare|
dadṛiśuḥ sahitā ramyaṁ taṭākaṁ yojanāyatam||

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[1] II, 75.
[2] *Daśa*, I, Kale's trans. p. 12.
[3] Quoted in *FNSI*, p. 83.
[4] Quoted in *EHD*, p. 7.
[5] Vana., 64.
[6] *Rām.*, Ayodhyā, LCIV, 7.
[7] *Ibid*, Araṇya, XI 2-6.

padmapushkarasaṁvādhaṁ gajayūthairalaṅkṛitam|
sārasairhaṁsakādambaiḥ saṅkulaṁ jalajābibhiḥ||

Animals and birds were also to be found in large numbers along the banks of the Godāvarī :[1]

iyaṁ Godāvarī ramyā pushpitaistarubhirvṛitā||
haṁsakāraṇḍavakirṇā chakravākapaśobhitā|
nātidūre na chāsanne mṛigayuthanipīḍitā||

Similarly wild life abounded in the valley of the Pampā :[2]

paśya sītajalāñchemāṁ saumitre pushkarāyutām||
chakravākānucharitāṁ kāraṇḍavanishevitām||
plavaiḥ kraunchaiścha sampūrṇāṁ mahāmṛiganishevitām|
adhikaṁ śobhate pampā vikūjadbhirvihaṅgamaiḥ||

From what has been said above, the Deccan appears to have been very rich in forest resources which offered the means of subsistence to many. To this class belonged the vyādhas who used to kill wild animals and to trade in their skin.[3] Subandhu speaks of the Vindhya mountain whose sides were said to have been "thronged with hundreds of savages eager to slaughter hundreds of female *chamarīs*."[4] Hunting, however, was a favourite pastime also of men of aristocratic birth.[5] A rake described the virtues of hunting before the king of Vidarbha in the following way :[6]

No other sport can do so much good to the body as hunting. For, being the best kind of exercise, it generates swiftness of foot, enables a man to traverse a long distance and thus, is of great service in time of difficulty ; as it removes phlegm, it improves appetite which is at the root of health ; as it destroys fat, the limbs become firm, hardy and active ; by it, one gets the power to endure cold and heat, as well as hunger and thirst ; and, by it, one becomes acquainted with the thoughts and actions of various animals in different conditions. By killing the deer and wild yaks, one can prevent the mischief they do to crops ; roads and by-paths are made all safe by the destruction of tigers and wolves ; and one comes to have a look into the woods and hilly regions which serve in more than one way ; it gains the confidence of those that tenant the wilds and serves to stir their warlike enthusiasm, impressing, at the same time, intimidation on hostile armies ; such and other virtues this hunting is calculated to ensure."[1]

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[1] *Ibid.*, Araṇya, XV 12-13.

[2] *Ibid.*, Kishkindhā, I, 98-99.

[3] *GS*, VII, 18, 29, 30.

[4] *ED*, Gray, p. 67.

[5] In ancient Indian literature, we often come across the word *vihārā-yātrā*, a pastime for the kings in which hunting and other similar amusements used to be practised. Kauṭilya (*AS*, VIII, 4) refers to *rājavihāra* and *deśavihāra*. Cf. also *Mbh.*, *XV*, I, 18 :

vihārayātrāsupunaḥ Kuruājo Yudhishṭhiraḥ
sarvānkāmān mahātejāḥ pradadāv-Ambikāsute.

Aśoka claims to have stopped *vihārayātrās* in his kingdom (RE VIII).

[6] *Daśa.*, Ch. VIII, Kale's trans. pp. 149-50.

Sometimes forests and parks were reserved exclusively for the kings for hunting and other purposes. Thus, we read in the *Rāmāyaṇa*[2] that Sugriva's *madhuvana* was well protected by a number of forest-guards with the king's maternal uncle at their head. Nobody was allowed to drink honey or eat fruits without special permission. So, when the *vānaras*, being overjoyed at the discovery of Sītā, entered the said forest and drank up all honey, ate up the fruits and destroyed the honey-combs, flowers and foliage, the superintendent (*vanapāla*) with his men wanted to prevent them only to be manhandled by the drunken monkeys. He thereupon went to Kishkindhā and reported the matter to the king ; but Sūgriva, sensing that Sītā was traced, forgave the offenders. These and similar other forests were evidently not jungles but pleasure parks where kings and his followers might retire in their leisure. The Hathigumpha inscription refers to the restoration of several such parks by Khāravela.[3] It is said that immediately after his consecration, Khāravela "caused the work of restoration of all gardens . . . to be done at the cost of thirty five hundred coins and thus made his subjects happy."

Forests were also reserved for the breeding of elephants.[4]

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[1] Kauṭilya strongly recommends 'hunting exercise' because it causes the disappearance of phlegm, bile, fat, and sweat, helps in the acquisition of skill in aiming at stationary and moving bodies and the ascertainment of the appearance of beasts when provoked. (*AS*, VIII, 3).

[2] Sundara, ch. LXI—LXII.

[3] B.M. Barua, *Old Brahmi Inscriptions*; No. I, *l*. 1.

[4] *AS*, II, 31 ; P.E. V of Aśoka mentions elephant-forest (*nāgavana*).

Special officers were deputed to maintain these forests. They were assisted by those who reared elephants, those who enchained the legs of elephants, as well as by their retinue of forest guards. Kaliṅga is described in the *Arthaśāstra*,[1] along with Aṅga, Kārusha and the East, as producing the best quality elephants. Hiuen Tsang[2] says that the Kung-yu-to (Koṅgoda or the Ganjam District) country produced large dark-complexioned elephants which were capable of covering long distances. The Chinese traveller also agrees with the *Arthaśāstra* writer when he says that the elephants caught from the forests of Kaliṅga were prized by the neighbouring countries.[3] The *Gajalakshaṇa*[4] mentions eight different kinds of elephants, e.g. Prāchya, Kārusha, Daśārṇa, Aṅgareya,[5] Kaliṅga, Aparānta, Saurāshṭra and Pañchanada. The *Bālarāmāyaṇa*[6] reveals that the elephants of the Vindhya forest were known for their size and strength. The beasts were apparently coveted for their fighting quality. Kauṭilya observes[7] : "The victory of kings (in battles) depends mainly upon elephants ; for elephants, being of large bodily frame, are capable not only of destroying the arrayed army of an enemy, his fortifications and encampments, but also of undertaking works that are dangerous to life." The king of Kaliṅga was famous for his war-elephants which were compared for their bulk with the Mahendra mountain.[8] The science of elephant-rearing was an important part of princely training and a Kadamba king claims to have been skilled in *hasti-śikshā*.[9] As elephants were highly valued in ancient India, the killing of the same was strictly forbidden. Even for the kings, hunting of elephant was not permitted.[1] Kauṭilya[2] prescribes death as the penalty for killing an elephant.

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[1] *Loc. cit.*

[2] Watters, *op. cit.*, p. 197.

[3] *Ibid.*, p. 198.

[4] See V. Bhattacharyya and G.K. Shrigondekar, 'Sanskrit works on Elephants', *JBORS*, Vol. X, pp. 322f. ; cf. *AS*, II, 2.

[5] According to the *Gajalakshaṇa* Aṅgareya comprises the country lying among Pāriyātra, Vidiśā, the Narmadā and Brahmāvarta.

[6] VI, 22.

[7] *AS*, II. 2.

[8] *asau mahendrādrisamānasāraḥ patirmahendrasya mahodadheścha/ yasya ksharatsainyagajachchhalena yātrāsu puromahendra//Raghu.*, VI, 54.

[9] Cf. *EI*, Vol. VI, pp. 16ff.

Instances of deforestation and colonisation are provided by literary and epigraphic sources. Conflagration, which from the *Gāthāsaptaśatī*,[3] seems to have constantly ravaged the Vindhya forests, undoubtedly involved much deforestation. The great enterprise like the one for laying a road from Ayodhyā through the Daṇḍaka forest for the movement of Bharata's retinue also caused large-scale clearance of wild tracts.[4] Attempt to colonise the forest regions may also be found in Agastya's statements to Rāma.[5] The sage narrates how Daṇḍaka, an ancestor of Rāma, conquered a forest land which henceforth became known by his name. Thus, the Daṇḍaka forest was brought under the authority of the kings reigning from Ayodhyā. The forest was then given to Agastya, a resident of the Himalayan region, to go over there and take up the clearing of the jungle by excavating river courses, lakes, ponds, etc., and planting Himalayan trees in the area. When it was thus made habitable, a number of sages took up their residence there. Being neglected by the successors of Daṇḍaka, the Rākshasas are said to have begun to frequent those regions and disturb the peaceful seers. On the sage's advice, Rāma agreed to take up the forest under his protection. He, thereupon, killed Khara and Dūshaṇa, two Rākshasa leaders, along with their followers, in an encounter and made the place safe for the hermits. The grant of a piece of *araṇya* land to a certain Brāhmaṇa by the Pallava king Nandīvarman supplies an important piece of evidence regarding the state's effort to colonise forest lands.[6]

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[1] *Raghu.*, V, 50 ; IX, 74.

[2] *AS*, II, 2.

[3] V, 37.

[4] *Rām.*, Ayodhyā, ch. LXXIX—LXXX.

[5] *Ibid.*, Araṇya, XII, 57 , Kishkindhā, XLI, 12.

[6] Cf. Udayendiram grant (No.I), *EI*, Vol. III, pp. 143ff.

6

Famine and Irrigation

DIODORUS,[1] on the authority of Megasthenes, affirms that "famine has never visited India" and that "there has never been a general scarcity of the supply of the nourishing food". This splendid generalisation, however, does not fit in well with the known facts of ancient Indian history. So far as our region is concerned, a Jātaka story[2] describes how the people of Kaliṅga took to robbery during the period of a famine. Tormented by want, the people gathered in the king's courtyard and upbraided him. The king dismissed them with the assurance of bringing rain. He then pledged himself to virtue and kept the holy-day vow for seven days, but could not make the rain come ; so he summoned the citizens and sought their counsel about the course of action to be taken for saving the country from drought. They advised the king to send for the white elephant of prince Vessantara, which possessed the magical power of invoking rain. The king thereupon despatched eight Brāhmaṇas to Vessantara to bring that elephant. In a similar Jātaka story,[3] we are told that once in the Kaliṅga country there was a famine as a result of drought. The people wandered about destitute hither and thither, leading their children by hand. Ultimately they came to Dantapura and made a hue and cry before the royal palace. The king asked why the people were lamenting. "Oh, Sire," was the reply, "three fears have seized upon all your kingdom : there falls no rain, the crops fail, there is a famine. The people starving, diseased, and destitute are wandering about with their little ones held by the hand. Make rain for us, O king." When the king asked them what the former kings used to do during such calamities, they replied that the custom followed by them consisted of alms-giving, keeping holyday vows, pledging themselves to virtue and lying down for days in the chamber or on a grass pallet. The king did all this, but even then there was no rain. As a second measure an elephant of extra-ordinary power was brought from the Kuru country ; but the presence of the animal also failed to invoke rain. Finally, the Kaliṅga king observed the Kuru righteousness. And then the entire country was blessed with rainfall ; the three fears were allayed ; the land became prosperous and fertile. The harrowing details of the famine in the city of Trigarta, given in the *Daśakumāracharita*,[1] may have reference to a famine in the Deccan to which its author was a witness. The author describes how, as a result of the want of rain for twelve years, the crops withered away, medicinal herbs lost curative power and trees bore no fruits. Since the country had no rain for a long time, the pools became beds of mud, streams ceased to flow and roots and fruits could not grow. Religious rites and festivals fell into disuse, conversations ceased and people were forced to take to theft and robbery. Swarms of crows suffering from starvation flew away and towns, villages and hamlets were almost depopulated. The skulls of men, could be seen wallowing here and there. The continuous starvation compelled people to consume all their store of grain, flocks of sheep and goats, wild buffaloes, all the cattle, all their servants, children and even their wives and ultimately one another. In a story about the origin of the Gautamī, *i.e.* the Godāvarī, the *Nārada Purāṇa*[2] states that for twelve years there was no rainfall in the country now embraced by the Godāvarī. As a result, there was a famine owing to which all sages approached Gautama and requested him to save themselves from the calamity. Gautama complied with their request and brought the Gaṅgā to his hermitage, sowed *śāli* grain in the morning and reaped the crop by midday. This went on till there was plenty of rain and crops.

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[1] II, 36.
[2] VI, 547.
[3] II, 276.

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[1] Ch. VI, Kale's trans. p. 117.

[2] Uttarārddha, 72, *v*. 24 ; Kane, *op. cit.*, Vol. VI, p. 708.

It is significant that in all the Jātaka stories, referred to above, people flock to the capital and make representation to the king when the crops fail owing to drought. Frazer[1] has cited several instances where the king is held responsible for the weather and for the fertility of his subjects, their cattle and crops. Crooke[2] refers to a passage of Manu,[3] which runs as follows : "In that country where the king avoids taking the property of mortal sinners, men are born in due time and are long-lived. And the crops of the husbandmen spring up, each as it is sown, and the children die not, and no misshaped offspring is born." In Baluchistan, in time of drought, the Khan doffs his fine cloths, and wearing the woollen overcoat of the peasant, drives a yoke of oxen across a rain-crop field.[4] At Ahmedabad, the Nagarseth or mayor of the city in sessions of drought used to make a solemn circuit of the city wall, pouring out milk to propitiate Indra.[5] The association of the ruler with this public calamity is also affirmed by a Tamil tradition[6] which proclaims that the king 'is to blame if the rains fail'. The responsibility of the state to relieve the subjects from the distress caused by drought or flood is implicitly recognised by the Junagadh inscription. In this epigraph[7] we are told that the Sudarśana lake, originally excavated by Chandragupta Maurya, subsequently developed an enormous breach and dried up. People in their despair began to lament loudly and this moved the Śaka ruler Rudradāman, who undertook the repairing work of the dam without exacting *kara*, *vishṭi* and *praṇaya* from the already oppressed subjects. During the reign of Skandagupta the lake burst once again because of excessive rainfall and that, as a result, there was a famine causing great distress to the people. But immediate attention was given by the state, and the dam was duly repaired.[8] A classic example of the beneficial result of restoration and repairing works of the embankments is supplied by Kalhaṇa.[1] The details given by Kalhaṇa show that the country of Kashmir, which was always threatened with flood, was saved from this natural calamity by the great engineering operation carried out by Suyya under the patronage of Avantivarman. As a result, large tracts of land were made available for cultivation and price of rice came down sharply.[2]

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[1] *Golden Bough*, '*The Magic Art*', i. pp. 366ff.

[2] *Religion and Folklore of Northern India*, p. 72.

[3] IX, 246-47.

[4] Crooke, *loc, cit*. D. Bray, *Census Report* : *Baluchistan*, Vol. I, p. 65.

[5] Crooke, *loc. cit.* ; *Bomb. Gaz.*, Vol. IV, pp. 114, 302.

[6] See S. Krisnaswami Aiyangar, *Ancient India*, p. 69.

[7] *IA*, Vol. VII, pp. 257ff.

[8] *CII*, Vol. III, p. 56.

It appears from what has been said above that the main cause of famine was absence of rain as well as excessive rain. Tiruvaḷḷuvar,[3] the well-known Tamil poet, says, "If the heaven dries up, worship to the heavenly ones with due solemnity on earth will not be paid," and "Neither alms-giving nor ascetic practices will abide in the world, if the sky dispenses with not its gifts." These sayings prove how much the people of India depend on rain. As agriculture was and still continues to be the main industry of the country, people tried to devise ways and means to become independent of nature's whims. Thus, to remove the menace of the years of failure of monsoons and the consequential drought, irrigation tanks and canals were excavated from very early times.[4] The importance of this means of artificial irrigation was so much that the provision for the supply of water, which served to nurture the movable and immovable creation in the world, came to constitute one of the most important forms of charity. An inscription[5] of A.D. 1369 while emphasising the merit accruing from the construction of a tank refers to a passage of Hemādri extolling the construction of sheds for distributing water, wells, reservoirs, canals and tanks. It is said that even the lotus-seated (Brahman) is unable to recount the fruit of merit accruing from their construction. The digging of a tank was considered to be one of the seven great meritorious acts a man (was expected to) perform during his lifetime, the others being the procreation of a son, the composition of a poem, the hoarding of treasure, the planting of a grove, the marriage of a girl and the consecration of a temple.[1]

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[1] *RT*, V. 68-121.

[2] Though there were many benevolent rulers who identified themselves with the famine-stricken people, exceptions were not rare where the kings tried to shirk off the responsibility during such calamities. In that case, people had to find a way out for themselves. One such example is furnished by a late Tamil inscription. In A.D. 1054, the village of Alangundi (in the Tanjore District) was afflicted with famine and the people could expect no help in their distress from the royal treasury. They, therefore, applied to the local temple treasury from which they obtained 1011 *kālañju* of gold and 464 *palam* of silver, consisting of temple jewels and vessels. In exchange for this, the members of the village assembly alienated 8¾ *veli* of land in favour of the god. From the produce of this land the interest on gold and silver received from the temple was to be paid. See Buch, *Economic Life in Ancient India*, 110.

[3] *IA*, Vol. IX, p. 199; *ASIR*, (1903-4), p. 202.

[4] *Vedic Index*, Vol. I, pp. 173, 214.

[5] *EI*, Vol. XIV, pp. 94ff; cf. also *Mbh*, Anuśāsana, 58; *Vishṇu*, CXI, 1-2; *Bṛi.*, 62.

The river-waters were generally diverted by means of dams and sluices to the irrigation canals. Various methods were again followed for lifting water from these canals to the field. Thus, we read in the *Śilappadikāram* : "But finding her (Kāverī) movement arrested by the barrier— the anicut with its doorway— she noisily leaps beyond it in the sportive mood natural to her first freshes. No sound other than this can be heard. We can hear there neither the sound of the bucket, nor of the water-lift; neither the usually loud pecottah, nor the palm-leaf basket used in irrigation."[2] The state was aware of the need of affording irrigation facilities for agricultural operations. About the irrigation sources of South India, Crole, in the *Chingleput Gazetteer*, writes that many of them "now abandoned or in ruins evince the solicitude of those ancient monarchs for the extention of cultivation even in tracts not favoured by natural position or the quality of the soil. Almost every catchment basin, however, small, still bears traces of having been bounded across and in many instances this was done in order to secure a paddy on a few acres of stony ungenerous soil to which all the fostering care of the British administration has induced cultivation to return. Large and more expensive projects were not neglected. Even some of them bear witness to the enlightenment of those Hindu kings while the absence of scientific instruments in those remote times compels the astonishment of the beholder."[3] An epigraphic evidence of such benevolent act is provided by the Hathigumpha inscription which relates that, as early as in the time of the first (?) Nanda, a canal was opened out in the Tośālī division not far away from the capital city of Kaliṅga.[1] The excavation of irrigation canals naturally invested the state with the duty of their maintenance and repairing works. In the time of the Mauryas, there was a regular class of officers to "superintend the rivers, measure the land, as is done in Egypt, and inspect the sluices by which water is let out from the main canals into their branches so that everyone may have an equal supply of it."[2] Again, the canal opened by Nanda gradually became unfit for any practical use and when Khāravela ascended the throne he caused the canal to be brought back into the capital from the Tanasūlivāṭa.[3]

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[1] *EI*, Vol. III, pp. 88ff.

[2] Canto XI, pp. 160-161.

[3] Quoted in V.R. Ramachandra Dikshitar, 'A History of Irrigation in South-India', *IC*, Vol. XII, pp. 71ff.

In addition to canals, wells and tanks were also dug through state initiative for irrigation purposes. Nārada while advising Yudhishṭhira on administrative principles, laid particular emphasis on the excavation of large and swelling lakes so that cultivation should remain independent of rain-water.[4] The importance attached to such tanks is also clearly illustrated by the Junagadh rock inscription in its dealing with the famous Sudarśana lake at the foot of the Girnar hills. As we have seen above, this lake was at first excavated by Rāshṭriya Pushyagupta during the reign of Chandragupta. Later at the time of Aśoka it was restored and adorned with irrigation canals by Yavanarāja Tushāspha. During Rudradāman's reign the same lake 'Sudarśana' became 'Durdarśana' by a devastating storm. The lake developed an enormous breach and was dried up; and "when the people in their despair of having the dam rebuilt were lamenting", the Śaka chief, defying ministerial opposition, reconstructed the embankment under the supervision of

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[1] *Select Ins.*, p. 206; *EI*, Vol. XX, p. 72.

[2] *Strabo*, XV, i, 50. Cf. the Hatum inscription which records that one Patoladeva Shāhi, a king of Kashmir, constructed a dam in the stream named Chat. shkaṁka(?) of the length of 'one thousand cubits extending to the eastern limit of the village of Hātūma in the Hoṇesarā *vishya*' (*EI*, Vol. XXX, p. 72).

[3] *EI*, Vol, XX, p. 72.

[4] *Mbh.*, Sabhā, V. 77, "irrigation works are the source of crops; the results of a good shower of rain are ever attained in the case of crops below irrigated works", *AS*, II, 14.

Suviśākha "three times stronger in breadth and length, in a not very long time, expending a great amount of money from his own treasury" and furnished it with a "natural dam, well planned conduits, drains and means to guard against foul matter". During the reign of Skandagupta the dam burst again in consequence of a torrential rain. This time also the state took necessary measures and the governor Chakrapālita rebuilt the dam after making "an immeasurable expenditure of wealth" and thus freed the region from "drought and famine for a hundred years". The eagerness of the rulers to maintain dams is also reflected in the Kuntagani plates[1] which state that the Kadamba king Ravivarman caused a tank-bund to be constructed in the village of Variyaka. Great merit was attached by the Hindus to such pious deeds. An epigraph[2] of A.D. 1413 thus records "whosoever restores a ruined family, a breached tank or pond, a fallen kingdom or repairs a damaged temple acquires merit fourfold of that accrued to the original builder".

Like the repairing work, the digging of tanks and wells was also a matter of pride. So a Nasik cave inscription[3] took special care to mention the wells and tanks which were made by Ṛishabhadatta. Similarly, a Nagarjunakonda inscription,[4] while recording the installation of a temple of Ashṭabhiyasvāmin on the Seṭagiri by a number of nobles, refers to the excavation by them of two tanks, one each at the Seṭagiri and Muḍerā. A Gunda inscription[5] likewise records the digging of tank by an Ābhīra general named Rudrabhūti at the village of Rasopodra. Besides persons of aristocratic birth, humbler folk are also known to have dug tanks and wells in order to achieve religious merit. Thus, an inscription from Adani[6] records the digging of a well by a certain householder (*gṛihapatika*). The tanks and wells constructed at the public or private initiative occasionally served as sources of irrigation. At Tadikonda (ancient *Tāṇḍikoṇḍā*) in the Guntur District may be seen the traces of two old tanks known as Chayitataṭāka and Bhīmasamudra. ,These are still the source of irrigation for an extensive area in the vicinity.[1]

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[1] *EI*, Vol. XXXII, pp. 217ff.

[2] *EC*, Vol. VII, sp. 30; cf. *Vishṇu.*, CXI, 19; *Bri*, 63.

[3] *EC*, Vol. VIII, p. 78f.

[4] *Ibid.*, Vol. XXXIV, pp. 197ff.

[5] *Ibid.*, Vol. XVI, pp. 153ff.

[6] Lüders' List, No. 963, App. 99.

Recent archaeological excavations have brought to light some actual traces of ancient Indian canals.[2] At Nagarjunakonda have been found the traces of another canal with an average width of 50 ft. and depth of 16 ft. It is situated in the south-east corner of the valley which is enclosed by lofty hill range on all sides save on the western. The embankments of the canals were constructed with a hard lime gravel mixed with *kaṅkar* and stones which were rammed to withstand the rush of water. They were gradually sloped to the canal bed, which also contained similar flooring. It is so hard that even now a heavy dig with a crow-bar or pick over the enbankments proves futile. In addition, on the southern side embankment was further strengthened by a random ruffle wall 4½ ft. wide. This stood as a testimony to the hydraulic skill of the Īkshvāku engineers who knew the danger out of the adjoining hill slopes.[3]

As the canals and tanks were considered vital for agricultural pursuits, the state took precautionary steps to safeguard the right of the farmers to use them even if the latter lay in others' field. Thus, when the Gaṅga king, Devendravarman, granted to a certain Brāhmaṇa a *hala* of land including the water-course and the house-site, the donee was clearly instructed to share the water during the summer (*grīshmodaka*) "equally with the (other) families".[4] The use of such water-courses and tanks made by the state, however, required previous permission of the state authority. Hence, the Brāhmaṇa donee of a plot of land in the village of Siddhārthaka had to extract from the donor Indravarman II the specific permission of utilising water from the nearby *rājataṭāka* for irrigation purposes.[1]

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[1] *EI*, Vol. XXIII, p. 106 ; Law, *Historical Geography of Ancient India*, p. 193.

[2] The earliest and, therefore, most important example of such canals is provided by the excavation at Lothal in Gujarat. Here traces of a channel and dockyard with embankment walls built out of burnt bricks have been discovered. The dockyard measuring roughly 710 ft. × 120 ft., was connected by an inlet channel of 23 ft. wide cut into the docks at high tide. See S.R. Rao, *New Light on the Indus Valley Civilisation*, Part I, p. 302, Figs. 10-13; *Ind Arch. A Rev.*, 1958-59, p. 14, Pl. XV, A-B; *JIH*, Vol. XL, p. 312.

[3] I. Karthikeya Sarma, 'Ancient Canals', *JIH*, Vol. XL, pp. 309ff; cf also *Ind. Arch., A Review*, 1954-55, pp. 22-23, pl. XLV-A. B; 1958-59, p. 8, pl. XII, A.

[4] *EI*, Vol. XIII, 212ff.

Causing damage to irrigation works was considered as a heinous crime, comparable to the destruction of a child in embryo, and the destroyer was liable to be punished by being drowned; a stone was to be tied round the criminal's neck so that it would be impossible for him to float up.[2] Kauṭilya[3] ordains that when a person breaks the dam of a tank full of water, he shall be drowned in the very tank ; of a tank without water, he shall be punished with the highest amercement ; and of a tank which is in ruins owing to neglect, he shall be punished with the middlemost amercement. Manu[4] similarly lays down that a man who causes breach in a dam shall be drowned or killed and even if he repairs it he shall be punished with a fine of one *uttamasāhasa*.[5] The lawgiver,[6] moreover, prescribes *prathamasāhasa*[7] *daṇḍa* for one who defiles a tank meant for common use. The villagers themselves were also aware of the need of protecting the irrigation works. Instances are not rare where they made agreements among themselves that they would not cause any damage to the trees, wells and tanks, such breach of agreement being punishable by the confiscation of a portion of the lands of the offender to the local temple.[8]

The Bennur grant[9] of Kadamba Kṛishṇavarman II makes us acquainted with a term, viz., *rājabhāga-daśabandha*. In the medieval inscriptions of south India the term occurs in the sense of a tax or an allowance of land or revenue as compensation

[1] *Ibid.*, Vol. III, pp. 127ff.

[2] *IC*, Vol. XII, p. 77.

[3] *AS*, IV, II.

[4] *Manu*, IX, 279.

[5] The fine of one *uttamasāhasa* amounts to one thousand *paṇas* (*Manu*, VIII, 138). In the *Yājña.*, I, 366, a fine amounting to one thousand and eighty *paṇas* is called *uttamasāhasa daṇḍa;* one fourth of this amount, i.e. 270 *paṇas* is called *adhamasāhasa daṇḍa* (i.e. *prathamasāhasadaṇḍa*).

[6] *Manu*, IX, 281.

[7] Two hundred fifty *paṇas* make one *prathamasāhasa* (*paṇānāṁ dve śate sārddhe prathamasāhasaḥ smṛitaḥ*/*Manu*, VIII, 37).

[8] *Inscription of the Pudukkottah State*, No. 156— quoted in V.R. Ramachandra Dikshitar, *op. cit.*, *IC*, Vol. VII, p. 77.

[9] *EC*, Vol. V., p. 594.

for the construction of a tank, well or channel.[1] H.H. Wilson[2] says that *daśabandham* is 'a deduction of 1/10 of the revenue on account of compensation for some public work, as the construction of a tank etc'. The construction of irrigation wells, tanks and canals, therefore, was not always made by the rulers to gain religious merit only. These were also profitable as bringing revenue to the Royal Exchequer. These *daśabandham ināms* 'were granted as a recompense to private individuals, who constructed tanks, wells and river channels, by means of which the revenue of the state was augmented. The extent and value of the *inām* were in proportion to the capital expended on the work and the outturn in revenue.'[3] In this connection, we may refer here to a passage of the *Arthaśāstra* where a term, viz., *udakabhāga*, occurs in the sense of irrigation tax, paid by cultivators at varying rates. It is stated that those who cultivate land irrigating by manual labour shall pay 1/5 of the produce as water rates ; by carrying water on shoulders, 1/4 of the produce ; by water lifts, 1/3 of the produce ; and by raising water from rivers, lakes, tanks, and wells, 1/3 or 1/4 of the produce.[4] In another place, Kauṭilya says that out of the crops grown by irrigation by means of wind power or bullocks[5] or below tanks, in fields, parks, flower gardens, or in any other way, so much of the produce as would not entail hardship on the cultivators may be given to the government. He advises remission of irrigation tax for five years in case a man constructs tanks, lakes, etc., and for four years when one repairs neglected or ruined works of similar nature ; for improving or extending or restoring water-works overgrown with weeds, taxes shall be remitted for three years ; in the case of acquiring such newly started works by mortgage or purchase, taxes on the land below such works shall be remitted for two years. But persons who cultivated the land below the tanks etc., of others at a stipulated price or for annual rent or for a certain share of the crops grown or persons who were permitted to enjoy such lands free of rent of any kind were responsible for keeping the tanks etc., in good repair ; if they failed in their duties they were liable to be punished with a fine of double the loss.[1]

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[1] V.R. Ramachandra Dikshitar, '*Daśabandham*', *JIH*, Vol. XIII, p. 178 ; see also V. Rangacharya, *Inscriptions of the Madras Presidency*, Vol. II, N I. 368 and 797 ; *ARE*, 462 of 1908, 527 of 1914, 434 of 1911, 65 of 1915 ; Rangacharya, *op. cit.*, Vol. X, No. 172.

[2] *A Glossary of the Judicial and Revenue Terms*, p. 127.

[3] *Madras Manual of Administration* (1885), Vol. I, p. 168.

[4] *AS*, II, 24.

[5] *The Munich MS*, reads 'damming a river.'

Various methods were adopted for irrigating the field with the water of the canals, tanks and wells. According to Strabo,[2] sluices were constructed to let out water from the main canals into their branches 'so that everyone may have an equal supply of it'. The *Śilappadikāram*[3] states how the movement of the Kāverī was arrested by an anicut with its doorway. The system of regulating the flow of water in the irrigation canals by means of sluice-gates thus appears to have been confined not to any particular region, but was known equally in the north and the south. Bucket, water-lift, pecottah and palm-leaf baskets were also used in irrigation.[4] The use of mechanised devices for this purpose was so popular that there developed in the Deccan many guilds of people working in hydraulic engines (*odayaṁtrikas*).[5] In the *Gāthāsaptaśatī*[6], reference is made to a water-lifting machine called *rahaṭṭa-ghaḍiya* (*i.e.*, *araghāṭṭa*).[7] It is a contrivance for lifting water from wells and lakes by working at '*ara*' or spokes. *Araghaṭṭa*, according to Ray,[8] was a current-driven waterlift, consisting of a series of earthen pots lashed to the periphery of a wheel revolving in a stream. The pots were so inclined to the axis that they dipped and filled while in the stream, and emptied while passing a trough placed above the shaft. The *araghaṭṭa*, also known as *ghaṭi-yantra* and *udghāṭana*, was worked not in the same way everywhere.[9] Thus, under the name of *udghāṭana*, it consisted of a drum shaped wheel turning in a vertical plane over water, round which went a pair of endless ropes with *ghaṭa* or earthen pots tied to them at equal distances. The wheel had spokes at one end, and worked like a capstan. It was known also as *ghaṭachakra*, and the *aśma-chakra* of the *Ṛigveda*[1] was probably the same irrigating device. Allan[2] recognises in the symbols on the obverse of some early Andhra coins from Kolhapur the water-wheel used for irrigation purposes.

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[1] *AS*, III, 9.

[2] *Supra*.

[3] *Supra*.

[4] *Supra*.

[5] Lüders' List, No. 1137.

[6] V. 90.

[7] *Araghaṭṭa* is mentioned in a number of inscriptions, see Sircar, *Ep. Gloss*, p. 26.

[8] *Ancient Indian Life*, p. 48.

[9] Ray, *op. cit.*, p. 36,

While irrigation works were arranged for cultivating the field in the absence of rain, it was constant trouble to protect crops in harvest time from the forays of wild animals.[3] Hunting, therefore, was highly acclaimed as a profession for the hunters 'by killing the deer and wild yaks can prevent the mischief they do to crops[4].' In return for freeing the land from wild beasts and seedpicking birds, they received proportionate allowance of grain from the king.[5] The later Mackenzie manuscripts state that the founders of the Hoysala dynasty were engaged in hunting and killing the tigers of the locality and were rewarded by the payment of an annual fee of one *paṇa* for the service.[6]

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[1] See Ray, *loc. cit.*

[2] *Catalogue of Indian Coins*, Intro. XXXII.

[3] *GS*, V. 2 ; VI, 49.

[4] *Daśakumāracharita*, ch. VIII, Kale's trans., p. 150.

[5] Strabo, XV, i. 41.

[6] See *The Struggle for Empire*, ed., R.C. Majumdar, p. 227.

7

Towns and Cities

Referring to the early Indian cities, Coomaraswamy[1] observes that the most conspicuous and necessary parts of a city were the moat and rampart, gates, specially gate-houses, with their defence towers, some of them within and near, but not upon the rampart, and the king's palace. In addition to these, there were other mansions, temples, granaries, rest-houses, monasteries, elephant stables, shops, bazaars, saloons, cook-shops (*odaniya-ghara*) taverns and slaughter houses. Intersected by main streets, roads alleys and blind lanes these cities were also provided with public squares, market places, parks, fruit and flower gardens, lotus-ponds, bathing tanks and sacred trees. A drain or sewer led out of the city, and it was possible for a man to make his escape by it. Outside the city were suburbs and villages.

These general features of the ancient Indian towns and cities may be discerned in the Nagarjunakonda and Amaravati sculptures as well as in the paintings of Ajanta. It may, however, be noted that the moat (*parikhā*), which ran around the huge wall known as *prākāra* and is indicated in all early sculptures by growing lilies and lotuses,[2] is absent from the Amaravati sculptures. Sivaramamurti[3] points out that the absence of the *parikhā* was owing to the limited scope of the artist, the *prākāra* being nowhere fully shown in the sculptures. The end of the bridge, which in the case of a water-moat connects the outside *janapada* with the fortified city, may, however, be recognised in some of the sculptures at Amaravati[1]. Kauṭilya[2] lays down that for protection the city-wall should be surrounded by three ditches each being separated from the other by an intervening space of six *daṇḍas*. He further prescribes that the sides of these ditches should be built of stones or bricks and the ditches themselves should be filled with perennial flowing water or with water drawn from some other source. One can witness the application of this view of Kauṭilya in the plan of the now ruined city of Sisupalgarh (Orissa), where the builders, as it seems, taking advantage of the proximity of the streamlet called the Gaṅguā or Gandhavatī diverted its waters around the northern, eastern and southern sides of the fort, thus providing a moat with a perennial supply of water.[3]

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[1] 'Early Indian Architecture : I. Cities and City-gates, etc.' *Eastern Art*, Vol. II, p. 221.

[2] *Ibid.*, p. 213.

[3] C. Sivaramamurti, *Amaravati Sculptures in the Madras Government Museum, Bulletin of the Madras Government Museum, New Series,* Vol. IV (1942), p. 129.

The *prākāra* or the rampart wall encircling the city was generally a brick structure rising from a foundation or plinth.[4] Sometimes the wall is depicted in the sculptures with re-entrant angles being crowned at the top by a coping or more usually by battlements. It is significant that, in an Amaravati relief,[5] towers on the walls are represented, an unusual feature in early reliefs of India and absent in the texts. The continuous line of the rampart was broken by the gate-house, the number of which varied according to the extent of the city. This structure was of brick and consisted of two projecting towers connected above the entrance by a hall (*śālā*). The approach to the entrance was known as the *saṅkrama*. The towers, known as *dvāra-aṭṭālakas* or *gapura-aṭṭālakas*, were provided with steps by which one could go up and visit the *śālā* or look out through the windows which were generally composed of wooden lattice shutters. The *aṭṭālakas* were flanked by *sīmāgṛihas*, also known as *koṭṭhāgāras* or *koshṭhāgāras*, which served as toll-houses and granaries. In an Amaravati relief can be seen the thatched roof of these *koshṭhāgāras* which is interesting since it is the parent of later roofs like those of the Gaṇeśa and Bhīma *rathas* at Mahabalipuram and many more modern temples.[1] One or two sculptures of the same place by way of representing the *toraṇa*, an ornamental gateway generally without a door, outside the city-gateway, confirm Amarasiṁha's explanation of the words *toraṇa* and *gopura* as *bahirdvāra* (outer entrance) and *puradvāra* (city-gateway) respectively.[2] *Toraṇas*, a specimen of Indian genius, consisted of a pair of *stambhas* (columns), which were united above by triple arches with caryatids or plain supports at intervals between them. Usually standing outside the city gatehouse, the *toraṇa* sometimes formed an integral part of the gatehouse itself, the usual superstructure of which, with its lattice windows, rose above the *toraṇa* arches.[3]

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[1] Coomaraswamy, *op. cit.* Pl. CXXV, Figs. 14 and 16.

[2] *AS*, II, 3. For a discussion on ditches in ancient India see Dutt, *Town-Planning in Ancient India*, pp. 91ff.

[3] *Ancient India*, No. 5 (1949), p. 64.

[4] Coomaraswamy, *op. cit.* Pl, CXXV, Figs. 13, 15 and 17.

[5] *Ibid.*, p. 213.

A description of the defences in the fortification given in the *Śilappadikāram*[4] shows that the gateway of the fortress walls was usually surmounted by a mechanical bow with self-projecting arrows, a clutching machine, which used to clutch those who touched it with its black claws, slings, shooting stones, boiling oils, cauldrons for smelting copper, furnaces for smelting iron, baskets of stones (for throwing), hooks, chains, traps shaped like *āndalai* birds, iron arms, sharp poles, bundles of arrows and nails, beams, needles to be thrust into the fingers (of enemies), the kingfisher machine which would pluck out the eyes (of the enemy), pigshaped implements, bamboo-like machine, heavy weighted bolts, wooden bars thrust across the entrance, clubs, missiles, lances and many more such things.

Within the fortified ramparts, the cities and towns were crowded with mansions and palaces, and inhabited by kings, nobles, merchants and other wealthy people. Unfortunately at the present state of our knowledge, it is very difficult to give a full picture of town-planning in the Deccan. This lacuna in our knowledge was expected to be filled up with the completion of excavations at Nagarjunakonda. But owing to the construction of a dam there, the site is now under water. However, whatever gathered from the excavations represents a well-laid out township. It was provided with streets, lanes and bylanes, measuring 25 ft. 15 ft. and 8 ft. in width respectively.[1] Early Indian literature makes it abundantly clear that in the cities and towns of our period 'the same caste or people of the same profession were congregated in the same ward so that a uniformity of life and consequent economic efficiency and progress were secured.'[2] Thus, in certain places, roads were flanked by the shops of weavers and cloth-merchants who dealt in fine fabrics made of silk, fur and cotton, while in some streets lived the grain-dealers. There were also reserved wards for the washermen, makers of muffins, wine-sellers, fishermen selling fish, dealers in white salt, sellers of betel leaves and scents, mutton-vendors, oil-mongers, meat-vendors, dealers in bronze, manufacturers of copperware, carpenters, black-smiths, sculptors, potters, goldsmiths, jewellers, tailors, cobblers, skilled workers of all sorts who made fancy trinkets of pieces of cloth and cork, musicians who could exhibit their faultless skill on flute and lute by sounding the seven notes and finally the lower class of artists who excelled in several minor arts. The cities were well laid out with broad highways, which were flanked by the mansions of rich merchants. Besides, there were the Brāhmaṇa street and the streets of physicians, astrologers, polishers of shells and conchs and husbandmen. Separate enclosures were maintained for the *sūtas* and *māgadhas*, religious dancers, mock-dancers, prostitutes, actresses, maidens selling flowers and betels, maid-servants, bagpipe musicians, drummers of different classes, buffoons and jesters. There were moreover four different streets the sides of which were occupied by men of the four castes. Cavalrymen, elephant warriors, charioteers and infantrymen were housed in an extensive open space where the armies of two great monarchs could meet. It was the market-place where underneath the dense rows of trees were erected permanent booths and stalls.[3]

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[1] Sivaramamurti, *op. cit.*, pl. XI, Fig. 7.

[2] *Amarakosha*, II, 2, 10.

[3] Sivaramamurti, *op. cit.*, pl. XI, Fig. 3.

[4] XV, p. 218.

The buildings flanking the streets were usually storeyed structures overlooking an *aṅgana*. Sometimes, a *toraṇa* consisting of two or three architraves led to the court in front of the building.[1] As observed by Coomaraswamy, the general appearance presented by the facade of a palace can be best understood from that of the facades of the various Buddhist *chaitya-gṛihas*, *e.g.*, at Karle, Bedsa, Kondivte, Kondane, Bhaja and Nasik[2] and those of the Jaina monasteries in Orissa. In fact the Orissa inscriptions,[3] making *koṭhā* and *pāsāda* to stand respectively for the internal cells and external part of the excavated *vihāras*, suggest that the cave facades really present the appearance of palace fronts. The facade provided entrance to the main building the ground floor of which had sometime a number of pillars partaking more of the character of an open pavilion. It was intended probably as an assembly hall. One such pavilion painted in a cave of Ajanta shows some interesting architectural features in the construction of its roof and cornice.[4] The roof is supported by columns, having cross-beams and rafters above them on which it finally rests. The cornice is curvilinear, in the so-called Dravidian style, and at its top is a frieze on which elephants, oxen and other animals are represented. The frieze in the original building would have been of stone, and the figures represented would have been carved on it. In the central part of the Nagarjunakonda valley, where the ancient city of Vijayapurī once stood, the ruins of a large *maṇḍapa* were discovered and five very handsome stone pillars were unearthed.[5] All are damaged and the pavilion must have been wantonly destroyed. From the style of their elaborate ornamentation and curious semiclassical subjects portrayed on their shafts, the pillars appear to have supported the wooden roof of a hall belonging to some royal palace.[6]

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[1] *Ind. Arch.*, 1959-60 : *A Review*, p. 9.

[2] B.B. Dutt, *op. cit.*, p. 147.

[3] *Śilap.*, V, pp. 110 ff ; XIV, pp. 206 ff ; *AS*, II, 4 ; cf. also B.B. Dutt, *op. cit.*, pp. 147ff.

Each storey above the ground floor was surrounded by a low balustrade (*vedikā*), plain or ornamental,[7] protecting a verandah

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[1] Coomaraswamy, 'Early Indian Architecture : Palaces', *EA*, Vol. III, Pl. XCIV, Fig. 15.

[2] *Ibid.*, Pl. XCIV, Figs. 16-18.

[3] B.M. Barua, *Old Brahmi Inscriptions*, pp. 81ff.

[4] G. Yazdani, *Ajanta Frescoes*, Part IV, Pl. XV.

[5] A.H. Longhurst, *The Buddhist Antiquities of Nagarjunakonda*, *MASI*, No. 54 (1938), Pl. VIII (C).

[6] *Ibid.*, p. 11.

[7] Sivaramamurti, *op. cit.*, Pl. XI, Fig. 8.

(*alinda*) surrounding the apartments. Sometimes there were projecting balconies with an opening in front and lattices on two sides.[1] The rooms were provided with windows which gave a full view of the streets to the inmates of the palaces. Kālidāsa[2] gives an interesting description of the womenfolk who rushed to the windows when Aja and his bride Indumatī were passing through the royal road of Vidarbhanagara.

Sivaramamurti[3] recognises three types of roofs in the palaces, *viz.*, flat, barrelled and curvilinear with pointed apex. Of these types, the barrel-vaulted roof with gables at either end was most popular. On the analogy of the representations from Mathura,[4] it appears that *giñjaka*[5] or tiles were used for roofing the houses of the wealthy people. The relief sculptures of Goli represent such tiled roofs.[6]

Thus constructed the palaces of the kings and high-born were not a single building, but composed of a number of *niveśanas* or mansions that contained different *śālās* for different purposes, *e.g.* the hall of weapons where conchs, bows and other weapons were kept,[7] *āpanaśālā* or drinking hall wherein were kept ready different dishes and viands with flagons and gobles of various wines,[8] *chitraśālās* or picture-galleries,[9] *krīḍagṛihas* or playhouses,[10] *saṅgītaśālās* or halls of music,[11] *nartanaśālās*[12] or dance halls and so forth. *Śālās* for living and private apartments, which included *śayanagṛihas* or sleeping chambers, were known respectively as *niveśana-śālā* and *kūṭāgāra*. There were, in addition, the *śuddhānta* or *antaḥpura*, comprising the apartments for women. The Amaravati sculptures depict several such *antāḥpuras*.[1] "They were entirely peopled by women and the only men who ordinarily trod that floor were the king and the old *kañchuki* or chamberlain. The *antaḥpuras* had their own lotus ponds, entrances, exits, courtyards, halls etc. and were varitable storied mansions."[2] As indicated by the cave facades themselves and by various texts, the living apartments were built around and above the great pillared hall or perhaps the ground floor plan was like that of an excavated *vihāra*, with chambers surrounding a large central space in which there was the stairway.[3]

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[1] Yazdani, *loc. cit.*

[2] *Raghu*, VIII, 5-12. Aśvaghosha gives in his *Buddhacharita* (III, 13ff.) almost a similar description of ladies running towards the windows to have a glimpse of the Śākya prince as he went outside the royal palace to visit the city of Kapilāvastu for the first time.

[3] *Op. cit.*, p. 134.

[4] Coomaraswamy, *op. cit.*, Pl. XCIV, Fig. 13.

[5] Cf. *Mahāvaṁsa*, LXXXVIII, 97.

[6] T.N. Ramachandran, *Buddhist Sculptures from a Stupa near Goli, Bul. Madras Govt. Mus.*, 1929, Pls. I(d) & IV (a).

[7] *Rām.*, V. 7, 2.

[8] *Ibid.*, V. 11, 12.

[9] *Ibid.*, V. 6, 36 ; *Uttara*, Act. I.

[10] *Rām.*, V. 6, 37.

[11] *Raghu.*, XII, 5 ; *Mālavikā.*, I.

[12] *Mbh.*, IV, 22. 3.

While the kings and nobles lived in mansions and palaces, the humbler section of the population resided in modest huts. The reliefs of Amaravati represent at least three types of such dwellings. The first type resembles *śālās*, being rectangular with barrel roof but apparently without finials.[4] The second type, having square plan and curvilinear roof with finial, resembles *koshṭhas*.[5] The third is circular in plan having hemispherical roof with or without finial.[6] An Ajanta painting[7] illustrates a hut with a thatched roof pyramidal in shape. The roof is shown as supported by bamboo poles and rafters.

In the street-scene of an Ajanta painting[8] where Buddha is shown begging, the architecture of the shop is interesting. The first shop, to the left of the Buddha, has an eve of stone slabs or of planks of wood in the front for protection against sun and rain. The second shop, to the right of the former, has a flat ceiling with stone or wooden rafters. As a roof of this design, is noticed in the front corridor of this cave (No. XVI) it may be inferred that houses with flat roofs supported by wooden beams had come into fashion in the Deccan by the 5th century

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[1] Sivaramamurti, *op. cit.* PL. XLI, Fig. I(d) ; Fergusson, *Tree and Serpent Worship in Ancient India,* Pls. LIX, Fig. 2 and LX, Fig. 2.

[2] Sivaramamurti, *op. cit.*, p. 131.

[3] Coomaraswamy, *op. cit.*, p. 189.

[4] Sivaramamurti, *op. cit.*, Pls. XI, Fig. 18 ; XLVIII, Fig. 2.

[5] *Ibid.*, Pl. XXVII, Fig. 2(b).

[6] *Ibid.*, Pls. XI, Fig. 14 ; XLVI, Fig, 2.

[7] Yazdani, *op, cit.*, Pls. IV, and XXIX(b).

[8] *Ibid.*, Part III, Pl. LIX.

A.D., which is the date of the cave. The left side of this shop has a grill-design which is noticed also at two places in the front corridor of Cave No. 1.[1] In another painting,[2] the shops have awnings of cloth or bamboo matting in front of them, such as are seen in the bazaars of India today for protection against sun and rain. They are fixed to the wall above the openings of the shops by nails with square heads. The outer ends of the awnings are supported on wooden poles which are kept at various angles according to the exigencies of weather. Above the shop is a row of balconies, behind which are apparently the dwelling apartments, occupied by shopkeepers or other people of the city.

Town-planners in ancient India classified the towns and cities according to the defensive character supplied by the nature. They are known as mountain-fort (*giridurga*), forest-fort (*vanadurga*), water-fort (*jaladurga*), desert-fort (*airiṇadurga*), god's fort (*devadurga*) and mixed fort (*miśradurga*).[3] Of these types, examples of mountain-fort and water-fort are provided by the ruins of Nagarjunakanda and Sisupalgarh respectively. Nagarjunakonda[4] is a red-soil valley about three miles in width and completely shut in by the surrounding hills on three sides with the river Kṛishṇā on the west. On the north-western side of the valley stands the Nagarjuna hill overhanging the river. It is a large lozenge-shaped hill of rock about a mile in length and two hundred acres in extent with a plateau of sheet rock on top, the edges or which form rugged cliffs all round the summit converting the latter into a natural fortress. This kind of natural defences corresponds closely to the *guha* type of mountain-fortress, which, according to the *Devī Purāṇa*,[5] should be situated in a valley secluded and made inapproachable by an encircling range of mountains with passes like a defile. The natural defences of Nagarjunakonda were strengthened by brick and stone fortifications now in ruins, but showing that at one time the plateau was used as a citadel. The bricks used in the construction of the fortifications are similar in size to those used in the Buddhist monuments in the valley. They resemble big tiles and measure twenty inches by three inches, exactly as some of the bricks unearthed at Bulandibag near Patna in Bihar. Another example of *giridurga* was Vātāpi, which, standing at the top of a hill, was 'unconquerable from the top as well as from the bottom.'[1]

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[1] *Ibid.*, Part I, Pls. IX & XXXVII.

[2] *Ibid.*, Part III, Pl. LXXIV.

[3] B.B. Dutta, *op. cit.*, pp. 74ff.

[4] Cf. *MASI*, No. 54 (1938), pp. 1ff.

[5] LXXII, 113-4.

Sisupalgarh, an early fort in eastern India, is an example of the water-fort.[2] Its ruins are situated near Bhuvaneswar in Orissa and circumscribed by the waters of a streamlet called the Gaṅguā or Gandhavatī. The main current, which flows past the western side of the fort,[3] has its source in the hilly tracts to the west of Manchesvar, some six miles north of Sisupalgarh, and joins the Dayā river seven miles further south. It seems fairly reasonable to imagine that the builders of the fort, taking advantage of the proximity of this stream, brought in its waters around the northern, eastern and southern sides of the fort, thus providing a moat with a perennial supply of water.

The fort forms a rough square on plan. Oriented approximately along the cardinal directions, each of its sides measures about three-quarters of a mile long, thus enclosing an area a little over half-a-square mile. The defences were erected about the beginning of the 2nd century B.C., and were renovated in the succeeding centuries.

The contours of the defence clearly suggest the existence of corner-towers[4] and eight large gate-ways, two on each side, besides about the same number of smaller openings[5] distributed all over the perimeter.

The fort while being too large for a mere citadel enclosing only the royal palaces and attached residences did not accommodate the entire population and a considerable section of it dwelt outside the rampart wall since the traces of ancient habitation in the form of pottery and other objects are obtainable in a fairly wide area outside the fort. In this connection, we may refer to a passage of the *Matsya Purāṇa*[1] where it is stated that a large number of people should not remain in the city or fort without any necessity or purpose. The *Devī Purāṇa*[2] lays down that the low class people should be quartered outside the city. In a *charyā* verse[3] we read that the *ḍoms*, a low caste people, lived at the outskirts of the city.

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[1] *EI*, Vol. XXVII, p. 9.

[2] B.B. Lal, Sisupalgarh, 1948, An early Historical Fort in Eastern India, *Anct., Ind.*, No. 5 (1949), pp. 64ff.

[3] *Ibid.*, Fig. I and Pl. XXVIII.

[4] *Ibid.*, Pl. XXIX A.

[5] *Ibid.*, Pl. XXIX, B.

Besides Sisupalgarh, which undoubtedly represents the ruins of an ancient capital of Kaliṅga, there were other cities of political and economic importance. One such city was Amarāvatī where the Buddhist Saint Bhāvaviveka is said to have resided awaiting the advent of Maitreya Buddha.[4] According to a tradition, the Buddha in one of his previous births was born in this city as a Brāhmaṇa youth named Sumedha.[5] The city may be identified with the Buddhist site close to Dharanikota on the Kṛishṇā. About a mile west of it and about 18 miles to the west of Bezewada on the right bank of the river stand the ruins of the famous Amaravati *stūpa*.[6]

Andhapura, another town of some importance and mentioned in a Jātaka story,[7] stood on the river Telavāha. It was visited by the traders in pots and pans, who came from the kingdom after crossing the Telavāha river (mod. Tel or Telingiri).

Bhīmapura, also known as Vidarbhanagara,[8] Vidarbhanagarī[9] and Kuṇḍinapura, was the capital of Vidarbha.[10] The *Anargharāghava*[11] places Kuṇḍinapura in Mahārāshṭra which, it says, included Vidarbha. The place is represented by the modern Kaundinyapura on the banks of the Wardha in the Chandur Taluk of the Amraoti District.[12]

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[1] CCXVII, 54.

[2] LXXII, 52.

[3] Cf. *nagara vāhiri re dombi tohori kuḍiā* (Kahnupād), *Chāryāgītipadāvalī, charyā*, No. 9.

[4] N.L. Dey, *The Geographical Dictionary* of *Ancient and Medieval India*, p. 218.

[5] *Dhammapada-Aṭṭhakathā*, I, p. 83.

[6] *JRAS*, 1870, p. 132.

[7] *Jāt.*, I, 3.

[8] *Raghu.*, V. 64.

[9] *Mbh.*, Vana., 73.

[10] *Harivaṁśā*, CXVII.

[11] VII, 101.

[12] *Gazetteer, Amraoti*, Vol. A, p. 406 ; *PHAI*, p. 87.

Bhojakaṭapura, which was the later capital of Vidarbha, is mentioned in the *Mahābhārata*[1] and the early Brahmi inscriptions[2] at Bharhut as well. Tradition refers to its foundation by Rukmi, the brother of Rukmiṇī.[3] The Chammak grant[4] of Pravarasena II refers to a Bhojakaṭarājya which, as it appears from the grant, included the Ilichpur District in Berar, a part of ancient Vidarbha.[5] Smith[6] rightly observes that the name of Bhojakaṭa, 'Castle of the Bhojas', implies that the province was named after a stronghold formerly held by the Bhojas, an ancient tribe known to Asokan edict.[7] Bhojakaṭa has been identified with Bhatkuli in the Amraoti District.[8]

Dhānyakaṭaka, from which so many donors mentioned in the Karle and Amaravati inscriptions originated, was a famous Greek settlement and an important trade centre. In the epigraphs the place name has been variously spelt as Dhānyakaṭaka, Dhanakaṭaka, Dhaṁnakaṭa, Dhaṁnakaṭaka, Dhañakada, Dhānyaghaṭa, Dhānyaghaṭaka, Dhānyaghāṭī, Śrīdhānyakapura or simply as Kaḍaka.[9] Cunningham[10] identifies it with Dharanikota, a mile west of Amaravati while Fergusson, Burgess and Sewell locate this city at Bezwada.[11]

It appears from the inscriptions that Govardhana was the political headquarters in Nahapāna's time as it was afterwards under Pulumāyi. Ṛishabhadatta made rest-houses at Govardhana.[12] This place was the centre of many trade-guilds. In the Purāṇas, it is a holy place along the northern slopes of the Sahya on the Godāvarī river :[13]

Sahyasya uttareardhe tu yatra Gadāvārī nadī|
Tatra Govardhano nāma surarājena nirmitaḥ|
Rāma-priya-ārtham svargoyaṁ vṛikshā oshadhayastathā||

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[1] Sabhā, 30.
[2] Lüders' List, Nos. 723 and 861.
[3] *Harivaṁśa*, CXVII.
[4] *CII*, Vol. III, pp. 236ff.
[5] *PHAI*, p. 91.
[6] *IA*, Vol. LII, pp. 262f. See also *PHAI*, p. 91.
[7] RE, XIII.
[8] *PHAI*, p. 91n.
[9] *EHD*, pp. 56f.
[10] *The Ancient Geography of India*, p. 611.
[11] *JRAS*, 1873, p. 263; 1880 pp. 98-109.
[12] Cf. Nasik inscriptions Nos. 10 and 12.
[13] See Sircar, *op. cit.*, 257-58.

Bhāradvājena muninā tat-priyārthe'vatāritaḥ|
antaḥpura-jan-oddeśastena jajñe manoramaḥ||

The place has been identified with the village of Govardhana-Gangapur on the right bank of the Godāvarī, 6 miles west of Nasik.[1]

Gokarṇa was a celebrated place of pilgrimage.[2] The *Śaktisaṅgamatantra*[3] and the *Saṁskṛitamañjarī*[4] refer to it as a southern *tīrtha*. Kālidāsa[5] says that it was situated on the southern sea. Here Śaṅkārāchārya defeated in controversy Nīlkaṇṭha, a Śaiva.[6] The *Rāmāyaṇa*[7] says that the sage Bhagīratha came to this place and engaged himself in asceticism because he was childless for a long time. According to the *Saura Purāṇa*,[8] it was not far from the river Revā. It has been located in Gendia, a town in the Karwar area of the Kanara (North) District of Mysore.[9]

In the 7th century A.D. Hiuen Tsang visited a place named Kung-kan-na-pu-lo.[10] The name has been restored as Koṅkaṇa-pura, *i.e.* the capital of the Koṅkaṇa country and identified variously with Vanavasi,[11] Anegundi[12] etc. But Watters[13] rightly observes that none of these identifications is satisfactory. Raychaudhuri[14] refers to the *Fang-chih*, where the reading is Kung-ta-na-pu-lo instead of Kung-kan-na-pu-lo and suggests that Hiuen Tsang probably meant Kuntalapura. In his opinion, the place may be identified with Kubattur in the Shimoga District, Mysore which was known in ancient times as Kuntala-nagara.

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[1] *Bomb. Gaz.*, Vol. XVI (1883), pp. 636-37.
[2] *Mbh.*, Ādi., 217 ; *Śiva*, III, 15 ; *Padma*, 21 ; *Kūrma*. XXX, 45-48.
[3] *Bk*, III, ch. 8, *l*. 13.
[4] See Sircar, *op. cit.*, p. 86.
[5] *Raghu*, VII, 33.
[6] See Dey, *op. cit.*, p. 70.
[7] Ādi., 42.
[8] LXIX, 29.
[9] Dey, *loc. cit.*
[10] Watters, *op. cit.*, p. 237.
[11] See *loc. cit.*
[12] Cunningham, *op. cit.*, p. 552.
[13] Watters, *op. cit.*, p. 238.
[14] *EHD* ,p. 43.

Kishkindhā is a celebrated name in the *Rāmāyaṇa*. The *Mahābhārata*[1] states that Sahadeva in the course of his *digvijaya* conquered this famous city. It appears from some passages of the *Rāmāyaṇa*[2] that Malyavat was within the country of Kishkindhā ; and also from Rāma's statement[3] that Malyavat was to the north of Kishkindhā, and that they were probably not far apart, for the mountain is called the gate of Kishkindhā. All these conditions seem to be best satisfied by identifying Malyavat with the carved lines of hills in the neighbourhood of Kupal, Mudgal and Raichur, and placing the town of Kishkindhā at or close to Bellary.[4] Ancient Kishkindhā, in fact, is still called by the name. It is a small hamlet situated on the north bank of the river Tuṅgabhadrā near Anegundi about 60 miles to the north of Bellary. About two miles to the south-west of Kishkindhā is the Pampā-sarovara, and to the north-west of Pampā-sarovara is the Anjana hill, where Hanumān was born.[5]

Kaliṅgapura or Kaliṅganagara was the capital of ancient Kaliṅga since very early times. As regards the plan and picturesqueness of the city of Kaliṅga, we have mention, in the first year's record of Khāravela, of *gopura* (gathehouses), *prākāra* (wall), *nivesana* (residential building), *taḍāga* (tanks), and *uyāna* (gardens). As to other features, there are allusions, in the 9th year's record, to *rāja-nivesa Mahāvijayapāsāda* (the royal residence, the Great-victory palace) ; in the 12th year's record, to *vīthi* (roads), *chatara* (squares), *palikha* (moats) and *sihara* (towers), besides *gopura* (gate-houses) ; and in the 5th year's record, to a *panāḍī* (canal).

It may be inferred from the hints given in Khāravela's inscription that the palace used as royal residence was the main centre of interest in the city of Kaliṅga, precisely as in other capital cities ; the residential buildings were all inside the city-wall provided with gateways and ditches, and were themselves provided with enclosures and gatehouses ; that the various gardens, parks and groves added to the picturesqueness of the city ; that the roads, squares, court-yards and canals facilitated easy communication and intercourse ; that the deep and cool tanks served as reservoirs of water for drinking, bathing and washing purposes, while the spire-temples towering above the house-tops stood out as various centres of religious worship.[1] Khāravela is said to have repaired the buildings, walls and gates in the city of Kaliṅga, which were badly damaged by a cyclone.[2] According to the *Daśakumāracharita*,[3] there was a wild forest in the vicinity of this city. Most of the early Gaṅgas, who described themselves as lords of Kaliṅga, issued their grants from the victorious camps at Kaliṅganagara.[4] The capital of the early Gaṅgas has been identified by some scholars with Mukhalingam,[5] a place of pilgrimage on the Vaṁśadharā while others identify it with Kalingapatam[6] at the mouth of the same river. Dey[7] observes that Kaliṅganagara was the general name of the capital of Kaliṅga, which was different at different periods, as Manipura, Rājapura, Bhuvaneśvara, Pishṭapura, Siṁhapura and Mukhaliṅgam.

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[1] Sabhā. 30.

[2] Kish., XXXVIII, *ll*, 11 and 36 ; XLVII, *ll*, 7-11 ; and Sundara, LXV, *l*. 15.

[3] Laṅkā., CVIII, *ll*. 24-25.

[4] F.E. Pargiter, 'The Geography of Rama's Exile', *JRAS*, 1894, p. 257.

[5] Dey. *op. cit*. p. 101.

Asikanagara (Mūshikanagara, according to an alternative reading) is referred to in the Hathigumpha inscription as situated on the Kaṅhaveṁnā, *i.e.* the Kṛishṇā river.[8]

In a Barhut inscription[9] Nasik occurs as the name of a town. The Purāṇas say that the people of Nāsika inhabited the land to the south of the Narmadā.[10] The name has been analysed as *Nay Sikh*, *i.e.* nine-peaked, but some suggest that the place was known as such owing to an epic tradition, according to which the nose of Śūrpaṇakhā was cut off by Lakshmaṇa at this place. During the Sātavāhana period, Nāsika was a stronghold of the Bhadrāyanīya school of the Buddhists.[1] Nāsika is modern Nasik which is about 74 miles to the north-west of Bombay. At a short distance from Nasik is the village called Saikhera where Rāma is said to have killed Mārīcha.[2]

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[1] Barua, *Old Brahmi Inscriptions*, pp. 287f.

[2] Barua, 'Kharavela as King and Builder,' *JISOA*, Vol. XV, p. 51.

[3] Ch. VIII, Kale's trans. p. 131.

[4] Cf. *EI*, Vol. XIII, p. 215 ; Vol. XXIII, p. 65 ; Vol. XXV, p. 195 ; XXVI, p. 63 ; Vol. XXXII, p. 202.

[5] *Ibid.*, Vol. III, p. 220.

[6] *EHD*, p. 32.

[7] *Op. cit.*, p. 85.

[8] *Select Ins.*, p. 207 and note.

[9] Lüders' List, Nos. 799, 1102, 1142.

[10] Cf. Sircar, *Studies in the Geography of Ancient and Medieval India*, p. 32 and note.

The ancient capital of the Aśmaka country was, according to the *Mahābhārata*,[3] at the city of Paudanya which is known as Potana (Podanna, Paudanya) in the Pali list.[4] A variant of the form Potana is Potali which seems to be a mistake for Potana or Potani, the latter being a possible corruption of Paudanya through another intermediate from Podaniya.[5] At one time the city of Potali was included in the kingdom of Kāśī. Thus, the *Assaka Jātaka*[6] relates that there was a king named Assaka who reigned in Potali which is stated therein to be a city in the kingdom of Kāśī. Another Jātaka story[7] indicates that around this city ran a fortification wall which was provided with a number of gates. These gates were closed the moment an enemy approached the city. Raychaudhuri[8] identifies Potana with modern Bodhan near the Godāvarī in the Nizamabad District in Andhra Pradesh.

Pratishṭhāna, also known as Supratishṭhāna, Supratishṭha, and Paethan, was one of the oldest cities in the Deccan. The *Pārāyaṇa* incorporated in the *Suttanipāta* refers to Patiṭṭhāna as the city of Alaka (a mistake for Mulaka).[9] According to a Jaina tradition, Sātavāhana after defeating Vikramāditya of Ujjayinī made himself king of Pratishṭhāna.[10] Ptolemy[11] mentions it as the capital of Siriptolemaios. Under the Sātavāhanas, Pratishṭhāna was a flourishing city. According to the *Periplus*,

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[1] *EHD*, p. 55.

[2] Ādi., CLXXVII.

[3] Dey, *op. cit.*, p. 147.

[4] *Cf. Dīgha.*, II, 6, 17, PTS ed., Vol. II, p. 235.

[5] Sircar, *op. cit.*, p 154.

[6] *Jāt.*, II, 207.

[7] *Ibid.*, III, 301.

[8] *PHAI*, p. 143.

[9] *Alakassa Patiṭṭhānam*, v. 36. (Nalanda Devnagari-Pali Series, *Khuddhakanikāya*, Vol. I, p. 422).

[10] B.C. Law, *Some Jaina Canonical Sutras*, p. 185.

[11] McCrindile's *Ancient India as described by Ptolemy*, ed. S.N. Majumdar Sastri p. 175.

Paethana[1] which was situated at a distance of 20 day's journey to the south of Barygaza, was an important centre of the textile industry. It has been identified with modern Paithan on the north bank of the Godāvarī in the Aurangabad District.[2] Even today the town has a name for the manufacture of cotton and silk.

In the Hathigumpha inscription, there is the mention of a place called Pithuḍa[3] which was destroyed by Khāravela. Law[4] suggests its identification with Pṛithudaka, which is mentioned as a holy place in the *Padma Purāṇa*.[5] But while the former was definitely in the south, the latter seems to be the same place referred to by Rājaśekhara[6] as demarcating the boundary between Uttarāpatha and Madhyadeśa. Sylvain Lèvi points out that in the Jaina *Uttarādhyayana Sūtra*[7] mention is made of Pithuṇḍa as a sea-coast town, reminding us of Khāravela's Pithuḍa and Ptolemy's Pitundra.[8] It may also be the Pṛithurāshṭra of the *Gaṇḍavyūha*. Ptolemy locates Pitundra in the interior of Maisolia between the mouths of the two rivers Maisolos and Manadas, *i.e.*, between the delta of the Kṛishṇā and the Mahānadī, nearly at equal distance from both.[9] The identification of the city is uncertain. But, as suggested by Raychaudhuri,[10] it did not lie very far from Vijayapurī of the Nagarjunakonda inscription, Amaravati and Bezwada in the heart of the ancient Andhrāpatha.

Pishṭapura formed part of the kingdom of Devarāshṭra during the reign of its king Guṇavarman.[11] It was invaded by Samudragupta when the place was ruled by Mahendragiri.[12]

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[1] Sec. 51.

[2] *Imp. Gaz.*, Vol. XIX, p. 317.

[3] Indraji reads Pāthuḍa ; Fleet, Pāṁthudaṁga ; Levi, Pithuḍa (Pithuṁda) ; Konow, Pithuṁda ; Jayaswal, Pithūda (See Barua, *op. cit.*, p. 44).

[4] *Op. cit.*, p. 182.

[5] Ch. 13, *Tīrthamāhātmya*.

[6] *Kāvyamīmāṁshā* (GOS), p. 94.

[7] Sec. XXI, 1-4 ; *IA*, Vol. LV, pp. 145f.

[8] S.N. Majumdar-Sastri, *op. cit.*, p. 187.

[9] *Ibid.*, pp. 68, 185, 386-87.

[10] *EHD*, p. 56.

[11] *EI*, Vol. XXIII. p. 57.

[12] *CII*, Vol. III, No. 1.

According to a tradition, it represented the feet of the demon Gaya, his navel and head being Virajā or Jajpur in Cuttack and Gayaśīrsha at Gaya respectively.[1] It has been identified with Pithapuram in the Godavari District.[2]

Siṁhapura was the capital of Kaliṅga in the 4th and 5th centuries A.D.[3] According to the *Mahāvaṁsa*,[4] the place was so called after its founder Siṁhabāhu the father of Vijaya. Siṁhapura in Rāḍha[5] cannot be regarded as the same as the Kaliṅga capital of the same name, the latter being identified with modern Singhapuram near Srikakulam.[6]

The *Periplus*[7] mentions Tagara as an important city and places it to the east of Paethana at a distance of 10 day's journey. Ptolemy,[8] however, locates it to the noth-east of Baithana. Fleet[9] correctly identifies the place with modern Tēr (Thair). It is about 95 miles south-east of Paithan, and agrees substantially with the distance and direction given in the *Periplus*.

Tosalī is mentioned in Aśoka's Kaliṅga edict I and in many inscriptions of the subsequent period. It was the capital of Kaliṅga during the Maurya period. In a later grant, kings of the Arya-Mahāmeghavāhana family appear to have had their capital at the same place.[10] As the name occurs in the Asokan inscription at Dhauli[11] in the Puri District, the identification of Tosalī is not very difficult to establish. Vestiges of a large city have been discovered not far from the site of the monument. The *Periplus*[12] places a region known as Dosarene and yielding ivory towards the east of Masalia. Ptolemy[1] refers to the city of Dosara apparently as a metropolis of this land. He locates Dosara in the land of the Kokkonagai, who lived to the west of the country watered by the mouths of the Ganges. Attempts have been made to trace the Indian name Daśārṇa in Dosarene/Dosara.[2] But it is difficult to locate the places mentioned by the Greek authors outside modern Orissa. Dosarene/Dosara may be a modification of the Indian name Tosala (the same as Tosalī or Tosala)[3] though the possibility of Ptolemy's Tosalei,[4] (placed to the east of the Ganges) being Tosali cannot be ruled out.[5]

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[1] Dey, *op. cit.*, pp. 64-5.

[2] *PHAI*, p. 539.

[3] Turnour (ed.), *Mahāvaṁsa*, ch. VI, p. 46; *Ann. Rep. on S.I. Ep.* 1934-35, p. 7. (No. 24).

[4] Turnour, *op. cit.*, App. V. pp. 88-89.

[5] Probably modern Singur in the Hooghly District, W. Bengal (see, Sircar, *op. cit.*, p. 137-38).

[6] Cunningham, *op. cit.*, p. 594; Sircar, *op. cit.*, p. 138; *EI*, Vol. IV, p. 143; Vol. XII, p. 4.

[7] Sec. 51.

[8] S.N. Majumdar-Sastri, *op. cit.*, p. 175.

[9] *JRAS*, 1907, pp. 537ff.

[10] Sircar, *op. cit.*, p. 134.

[11] *Suc. Sāt.*, p. 30. The name Dhauli appears to have sprung from Tosalī through the intermediate forms Tohali and Dhoali.

[12] Sec. 62.

Vatsagulma, referred to in the Basim plates of Vindhyaśakti II, seems to be the capital of a branch of the Vākāṭakas.[6] Rājaśekhara's Vachchhomī,[7] which corresponds to the Skt. Vatsagulmī, is derived from the name of its capital Vachchhoma (Vatsagulma), and is identical with Vaidarbhī style. He tells us that Vachchhoma was situated in Dakshiṇāpatha. It was a centre of learning in his time. In the third *adhyāya* of the *Kāvyamīmāṁsā*,[8] Rājaśekhara states that the mythical Kāvyapurusha married the Sāhityavidyā at Vatsagulma in Vidarbha which is the pleasure-resort of the god of love. The *Jayamaṅgalā* commentary on the *Kāmasūtra*[9] states that Vatsa and Gulma were two co-uterine brothers who were princes of Dakshiṇāpatha. The country settled in by them came to be known as Vatsagulmaka. The *Bṛihatkathāmañjarī*[10] also states that Vatsa and Gulma were sons of a Brāhmaṇa who was the maternal uncle of Guṇāḍhya, but it does not state that they founded a city named Vatsagulma. The local *māhatmya* gives an altogether different derivation. It states that Vatsa was a sage who by his very severe austerities made an assemblage (*gulma*) of gods come down and settle in the vicinity of his hermitage. That is why the place came to be known as Vatsagulma. Vātsyāyana[1] records a peculiar custom prevalent in Vatsagulma among the female members of the aristocratic society who used to go to the royal palace during the night to attend on the king. Vatsagulma is identical with Basim in the Akola District in Maharashtra.

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[1] S.N. Majumdar-Sastri, *op. cit.*, p. 171.

[2] Schoff, *The Periplus*, p. 253.

[3] Sircar, *Studies in the Geography of Ancient and Medieval India*, p. 151f.

[4] S.N. Majumdar,-Sastri, *op. cit.*, p. 230.

[5] Vide Dey, *op. cit.*, p. 205 ; Law, *op. cit.*, p. 195.

[6] *EI*, Vol. XXVI, p. 140.

[7] *Karpuramañjarī* (HOS), pp. 26f.

[8] GOS ed., p. 10.

[9] Nirnaya Sagara Press ed., V. 5, 33.

[10] I, 3, 4 ; cf. *Kathāsaritsāgara*, I, 6.9.

Vātāpi was the capital of the Chālukyas. The place was so-called after Bātāpi, the brother of Ilvala.[2] It is modern Badami near the Malaprabhā river in the Bijapur District.[3] Vātāpi was invaded by Siruttoṇḍa, a general of Narasiṁhavarman, when the latter launched a counter offensive against Pulakeśin II.[4]

Veṅgīpura was the capital of the Sālaṅkāyanas, who in the 4th and 5th centuries A.D. were ruling over the land between the Kṛishṇā and the Godāvarī. Ptolemy says : "Beyond the Maisoloi (Masulipatam) are the Salakenoi near the Arouaia mountains, with the following cities : Benagouron 140·24′, Kastra 138·19·30′ ; Magaris 137·30′ 18·20."[5] Benagouron, the premier city of the Salakenoi, appears to Sircar[6] to be a mistake for Bengaouron (Bengapura) which is no other than the well-known Veṅgīpura. It was one of the places overrun by Samudragupta in his southern campaign. Veṅgīpura corresponds to modern Paddavegi near Eluru in the West Godavari District.[7]

Vanavāsi was the capital of the Kuntala country. A record of A.D. 1077 states : "In the centre of that middle world is the golden mountain to the south of which is the Bhārata land in in which, like the curls of the lady earth, shines the Kuntala country to which an ornament . . . is Banavāsi."[8] It is significant that even when after the foundation of the Kuntala-Karṇāṭa kingdom the political centre of gravity shifted to Badami,

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[1] *Kāmasūtra*, V. 5, 33 ; *mahāmātreśvarāṇāmantaḥpurāṇi niśi sevārthaṁ rājānamupagachchhanti vātsagulmakānām.*

[2] Dey, *op. cit.*, p. 27.

[3] *Loc. cit.*

[4] *EI*, Vol. II, p. 277.

[5] S.N. Majumdar-Sastri, *op. cit.*, p. 171.

[6] *Suc. Sāt.*; p. 72.

[7] Dey, *op. cit.*, p. 29.

[8] *EC*, Vol. VIII, Sb. 262 ; quoted by Sircar, *op. cit.*, p. 156.

Malkhed and Kalyan in the old Hyderabad state the tradition of Vanavāsi having been the capital of the Kuntala country was remembered. Thus, a 10th century record mentions the Kuntala king residing at Vanavāsa indicating the city as well as 'exile'.[1] Vanavāsi is the ancient Vaijayantapura, also known as Jayantīpura, capital of the Kadambas, and Vijayantī on the Varadā river of the epigraphic records.[2] Raychaudhuri[3] points out that the *Rāmāyaṇa* has a Vaijayantapura in the south in the direction of Daṇḍaka. It may be the port of Byzantium or Byzanteion of the classical writers, or Banavāsi— the Banaouasei of Ptolemy — described in the Aihole inscription as a place 'which has for a girdle the rows of swans that sport on the light waves of the river Varadā'. While the Byzantium of the classical writers is a sea-coast town, Ptolemy draws a distinction between it and Banaousei, which is an inland city. But as we have seen above, the latter also was known as Vaijayantī. It is significant that Alberunī places his 'Banavas' on the sea-coast. Raychaudhuri[4] observes that the foreigners probably did not understand the distinction between Vaijayantī-Banavāsi in the interior on the banks of the river Varadā and its ports which may have lain somewhere on the west coast and apparently bore the same name. Aśoka is said to have sent a Buddhist missionary named Rakkhita to Vanavāsi.[5] It has been identified with a decayed village of the same name in the Sirsi Taluk of the North Kanara District.[6]

Vijayapurī was the capital of the Īkahvākus.[7] It was situated in the central part of the Nagarjunakonda valley[8] where ruins of an ancient city have been unearthed.[9] The inscriptions, ruined *stūpas* and monasteries discovered at this place suggest that in the 2nd and 3rd centuries A.D., the ancient city of Vijayapurī was one of the largest and most important Buddhist settlements in south India. The city is mentioned in an Amaravati inscription as Vijayapura.[1]

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[1] *EI*, Vol. XXII, p. 132 ; see also Sircar, *op. cit.*, p. 156n.

[2] B.L. Rice, *Mysore and Coorg*, Vol. I, pp. 289, 295.

[3] *EHD*, p. 54.

[4] *Loc. cit.*

[5] *Mahāvaṁsa*, XII, p. 71.

[6] *List of the Antiquarian Remains in the Bombay Presidency*, Vol. III, p. 188 ; Dey, *op. cit.*, p. 21.

[7] *IHQ*, Vol. XXXVIII, pp. 267ff.

[8] *MASI*, No. 54, p. 11.

[9] *Supra.*

To the construction of the Buddhist *stūpa* at Barhut the inhabitants of a town called Purika made some contributions.[2] In the Purāṇas,[3] the Paulikas, Paurikas, Paunikas or Śaulikas are included in the list of countries of South India. In the *Vāyu*, *Brahma*, *Brahmāṇḍa* and *Agni Purāṇas*, it is mentioned before Daṇḍaka, while, in the *Vāmana*, it occurs after Daṇḍaka and before Sarika. In the *Khila-Harivaṁśa*,[4] the city of Purikā is placed between two Vindhya ranges, near Mahishmatī, and on the bank of a river flowing from the Ṛikshavat mountain.

Karahāṭaka, severally mentioned in the epigraphs as Karahākaṭa Karahākaḍaka, Karahāṭa and Karad, was the chief town of the Karad *Taluk* in the southern part of the Satara District at the junction of the Kṛishṇā and the Kaynā.[5]

In the *Mahābhārata*,[6] there is the reference to a city named Sañjayantī which probably answers to the Sazantion of Ptolemy[7] and survives in the present Sanjan, an old village in the Thana District.[8]

The inscription of Aśoka refers to a number of cities in the Deccan. Of these Suvarṇagiri[9] was the seat of southern viceroyalty of the Maurya empire. Hultzsch[10] proposes its identification with Kanakagiri south of Maski and north of the ruins of Vijayanagara. Raychaudhuri,[11] however, likes to locate it at Songir in Khandesh. Isila[12] (in Chitaldroog) and Samāpā[13] (in Ganjam) were two other important cities at the time of Aśoka.

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[1] Lüders' List, No. 1285.

[2] Barua and Sinha, *Barhut Inscriptions*, pp. 14, 17, 21.

[3] Sircar, *Studies in the Geography of Ancient and Medieval India*, p. 30 and note.

[4] Vishṇuparavan, XXXVIII, 20-22.

[5] *EHD*, p. 52.

[6] Sabhā., 31.

[7] S.N. Majumdar-Sastri, *op. cit.*, p. 152.

[8] *EHD*, p. 55.

[9] MRE I.

[10] *CII*, Vol. I, p. XXXVIII.

[11] *PHAI*, p. 311n.

[12] MRE I.

[13] Separate Kaliṅga Edicts I and II.

In the inscriptions and the accounts of the classical writers mention is made of many other towns and cities in the Deccan. Ptolemy[1] speaks of a Hippokoura, which was the capital of the Baleokouros (restored as Vilivāyakuras). Its identification is uncertain. Many other places referred to by Ptolemy are likewise difficult to identify. A city named Purī rose as an important political centre in northern Konkan from the time of the early Chālukyas and remained as such down to the time of the Śilāhāras.[2] In the Aihole inscription,[3] it has been described as the 'queen of the Western Ocean.' The identification of the place remains doubtful.

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[1] S.N. Majumdar-Sastri, *op. cit.*, p. 176.
[2] *EHD*, p. 60.
[3] *EI*, Vol. VI, pp. 1ff.

8

Associate Life in the Towns and Villages

THE ideal of communal harmony and co-operation was always a living force in ancient India. This can be seen in so many communal festivities, public works, collective charities and religious bequests referred to in the literature and inscriptions.

In the *Gāthāsaptaśatī*, mention is made of a number of festivals which would have been impossible without a healthy development of associate life in the rural areas. The fairs and festivals were the occasions when people tried to forget the hardships of their daily life. In such festivals, womenfolk were found to participate freely along with their male counterparts. Before appearing in the public, they took particular care to enhance their physical charm with the aid of cosmetics and similar other things.[1] Vātsyāyana[2] says that women of the Mahārāshṭra country were well-versed in the sixty-four arts, which included among other things *viśeshakachchhedya*, *daśanavasanāṅgarāga*, *śekharakāpīḍayojana*, *nepathaya-prayoga*, *karṇapatrabhaṅga* and *bhushaṇayojana*.[3] We may conjecture that the knowledge of all these arts were exploited most skilfully by the girls concerned on the day of any social ceremony. Beautifully dressed and bedecked with ornaments, they flocked to the public places where, in the pleasant moon-lit nights of the spring, they

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[1] *GS*, I, 39.
[2] *Kāmasūtra*, VI. 5, 29.
[3] *Ibid.*, III, 16. I.

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participated in the *madhutsava* or *madanotsava*.[1] Daṇḍin[2] describes how during the vernal season the fragrance of the blossoming flowers, the humming of the bees, the cool breeze carrying the sweet smell of the sandal from the Dardūra and the cooings of the *koil* deprive all sense of feminine modesty of young girls and beautiful women and make them overridden with the passion of love and ready for the field of amorous sport. Even kings, accompanied by all ladies of their harem, and attendants, were engaged in amorous sports in the groves to enjoy the cupid festival. Drinking, dancing and singing were indulged in freely to make the environment jovial and hilarious.[3] The festal mood of the people was again to be witnessed during the *phalgūtsava* when the boisterous frenzy of men and women reached such a height that they did not even hesitate to throw mud at each other.[4] In the monotonous rural life, the ploughing festival, which was associated with the cultivation of cotton[5] and other staple products, was a happy and welcome break. The Jātakas[6] refer to the plough festival as a great annual ceremony when the king held the plough along with the peasants.[7] The marriage ceremony, during the performance of which auspicious songs were sung, was another occasion for social gathering.[8] As the festivals and ceremonies were days of joy, these were celebrated with the preparation of pies (*vāyanaka* or *prahenaka*) in the house of every householder.[9] These pies were relished not only by the householder and other inmates of the house, but distributed also among neighbours by the ladies of family[10]— an example of a happy community.

The desire to live together was also reflected in the joint family system of the Deccanese society. The numerous gifts[11] made by persons in common with their parents, wives, brothers, sisters, grandsons, grand-daughters and other relatives, suggest a compactness in the family life. The frequent references in the *Gāthāsaptaśatī* to young wives and girls seeking advice from the wives of their maternal and paternal uncles also indicate a happy relation among the different members of the family. Mutual understanding and a general harmony were the basis of this joint family life. So even when one expressed some weakness in respect of his brother's wife, the latter did not disclose it to her husband lest it might lead to a domestic feud.[1] On the other hand, she tried to correct him by citing the example of Lakshmaṇa.[2]

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[1] *GS*, VI, 35, 44, 45.

[2] *Daśa*, trans. Kale, pp. 30f., 134f.

[3] *GS*, V. 66 ; VI. 35, 44, 45.

[4] *Ibid.*, IV. 69.

[5] *Ibid.*, II, 65.

[6] IV. 167 ; VI. 479.

[7] See S. Hardy, *Manual of Buddhism*, p. 150.

[8] *GS*, VII. 43.

[9] *Ibid.*, VII, 24.

[10] *Ibid.*, IV, 28 ; VII. 3.

[11] See *EHD*, p. 136.

Outside the family, people expressed their fellow-feeling through social co-operation. Thus, a verse in the *Gāthāsaptaśatī*[3] suggests that, when a locality was threatened with conflagration, the whole population including men and women rushed to fight the fire. In another place, we read the offering of shelter to the tired traveller[4] while a third shows that the neighbours sometimes protected the house from the robbers during the absence of the householder.[5] A typical example of the sense of social co-operation is given in the *Gāthāsaptaśatī*[6] where a man, whose financial condition was not satisfactory, is found to have taken the over-all responsibility of a relative in distress.

The co-operative spirit also finds expression in so many religious enterprises. Thus we see occasionally the entire population or a certain section of a locality united to make a gift :

1. "Gift of a village by the inhabitants of Nasik."[7]
2. "Gift of the town of Karahākaṭa."[8]
3. "Gift of the city of Dhāṁñakaṭaka (Dhānyakaṭaka)."[9]

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[1] *GS*, I, 59.

[2] *Ibid.*, I. 35.

[3] III. 29.

[4] *GS*, I. 49 ; IV. 79.

[5] IV. 35.

[6] I. 18 ; cf. also VII. 6, III. 85.

[7] The above is the reading of Bhagawanlal Indraji. In Lüders' List, No. 1142, the passage is rendered as 'gift of the village of Dhambhika of the Nāsikakas (the Nāsika people)'.

[8] *Ibid.*, No. 705.

[9] *EI*, Vol. XV, p. 263.

4. "(This) pillar (is) the gift of the community of Traders from Dhenukākaṭa."[1]
5. "Gift by the women from Naṁdapura (?) and the novices (*śamaṇudeśa*) from Suvaṇamāha (?) in the Aya-Sakasaṭhi (? Ārya-Sakasaṭhī ?) committee (? *gohī*) of Gilākaṇakera (? Glānakārya ?)."[2]

The religious endowments set up by an individual or a group of people were sometimes placed for proper maintenance in the hands of committees known as *goshṭhīs* and *śreṇīs* (guilds). The *goshṭhīs* were committees of trustees in charge of temples or charitable institutions.[3] Vātsyāyana says that the villagers of the same community should form the *goshṭhī*, and collectively they should engage themselves in social welfare and benevolent activities.[4] He enjoins that wise men should not join a *goshṭhī* which is not liked by others and which adopts violent means.[5] *Goshṭhīs*, regulating their work in accordance to the wishes of the people and conducting sports, were ideal for the learned men to associate with.[6] Since the *goshṭhīs* were composed of various types of men, some knowing Sanskrit but having no knowledge of the local dialect and *vice versa*, the use of chaste Sanskrit or the *deśabhāshā* in such assemblages was discouraged.[7] At times, the *goshṭhīs* were headed by the king.[8] There were also the treasurer (*hiraṇakāra*) and ascetic (*goṭhīsamaṇa*) of the committee.[9] A Bhattiprolu inscription mentions by name the following members of a *goshṭhī* :

"The committee (*goṭhī*) : Hirañavaghavā (Hiraṇyavyāghrapād), Vugālaka (Udgālaka), Kalaha, Visaka (Viśvaka), Thorasisi (Sthaulaśīrshi), Samaṇa (Śramaṇa), Odala, Apakara etc."[1]

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[1] *Ibid.*, Vol. XVII, p. 326.

[2] Lüders' List No. 1339.

[3] Cf. Kaman inscription of (Harsha) year 263 (*EI*, Vol. XXXVI, pp. 52ff) which speaks of the *Goshṭhīkas* as responsible for the utilisation of certain incomes of the temples referred to in the epigraph in meeting the expenses of whitewashing, vermilion and lights. As pointed out by the editor of the record, these *Goshṭīkas* were apparently members of the *goshṭhī*, *i.e.*, a corporation or committee of the supervisors in charge of the religious institution.

[4] *KS*, I 4. 50.

[5] *Ibid.*, I. 4. 52.

[6] *Ibid.*, I. 4. 53.

[7] *Ibid.*, I. 4. 51.

[8] Lüders' List No. 1335.

[9] *Ibid.*, No. 1333.

It was not necessary for the members of the *goshṭhī* to belong to the same caste and profession. There is instance to show that traders, goldsmiths, blacksmiths and carpenters were sometimes members of the same *goshṭhī*.[2]

The *goshṭhīs* not merely performed their duties as trustee boards but, as a representative organisation, also made religious endowments on behalf of their respective communities and localities. It seems that the Bhattiprolu inscriptions[3] refer to a number of *goshṭhīs* probably in connection with some gifts made by the latter. A Brahmi inscription from Bandhogarh records that during the reign of Vāśisṭhīputra Śrī Bhīmasena a cave-dwelling was excavated "by the committee (*goshṭhī*) (consisting of) Phagusama, the merchant Mada (Madra), the goldsmith Sivasaka (Śivaśakra), the carpenter and blacksmith (*kāshṭhakāri-karmāra*) Śaka (Śakra), the merchant Cheti, the trader (*vaṇik*) Sivadhara (Śivadhara) and the trader Tira."[4]

The *goshṭhīs* were not the solitary examples of local bodies looking after social welfare, managing public endowments and charities, and guiding the religious observances of the community. Self-government by means of craft-guilds also formed an important factor in the political administration of the country. We read in a Nasik inscription[5] that the Śaka chief Ṛishabhadatta after investing his sums in the two craft guilds of Govardhana, had his charities proclaimed in the town assembly (*nigamasabhā*) and duly registered them at the record office. Another inscription[6] from the same place similarly records the registration of a private endowment, which was invested in a guild, in the assembly-hall. These two inscriptions suggest that something like a municipal body existed even in these early days. The guilds, being an important institution in the municipal government of ancient Indian cities, were

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[1] *Ibid*, No. 1332.

[2] *EI*, Vol. XXXI, p. 178.

[3] Lüders' List Nos. 1332, 1333, 1335, 1338.

[4] *EI*, Vol. XXXI, p. 178, No. 1.

[5] *EI*, Vol. VIII, pp. 82ff.

[6] *Ibid.*, pp. 88ff.

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responsible to the town corporations for the due discharge of their duties as trustees of public money. In fact, the fundamental feature of all guild activity was the collective responsibility that it implied. Thus, a late Tamil inscription reads : "We, all the following shepherds of this village, had received 90 ewes of this temple in order to supply ghee for burning one perpetual lamp. We shall cause the shepherd, *e.g.*, to supply daily one perpetual lamp, one *alakku* of ghee . . . If he dies, absconds, or gets into prison, fetters (or) chains, we all these aforesaid persons, are bound to supply ghee for burning the holy lamp as long as the sun and moon endure."[1] A similar guarantee was apparently given to Ṛishabhadatta when the latter invested his money in two guilds of Govardhana for the regular supply of cloth and other minor necessities (*kuśana*) to ascetics living in the cave excavated by the Śaka chief. There are also several other instances where the guilds are represented as accepting public endowments.[2] The guilds, however, were not merely the receivers of others' gifts, but also made gifts themselves in the name of the corporation.[3]

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[1] *SII*, Vol. II, p. 251 ; see also Buch, *Economic Life in Ancient India*, p. 389.

[2] Lüders' List Nos. 1137, 1162, 1165 ; *EI*, Vol. XXXV, p. 5 ; *ASWI*, Vol. IV, p. 97, No. 27 ; *EI*, Vol. XXIV, p. 280.

[3] Lüders' List No. 1180.

9

Mineral Resources

THE mountains and the rocky soil of the Deccan were very rich in mineral resources. The *Rāvaṇavaha*[1] of Pravarasena mentions the Sahya mountain (the Western Ghāṭs) as containing metallic ores (*dhātuśilā*). Damayantī while moving in the Vindhya forest being deserted by Nala came across mountain ranges rich in minerals.[2] Pliny[3] says that India was a great producer of costly gems and in Book XXXVII gives a long list of precious stones, the majority of which, if not all, were quarried in the Deccan. A South Indian embassy, sent to China in the time of Seuen-woo of the dynasty of the later Wei (A.D. 500-516), is said to have reported to the Chinese emperor that his kingdom produced diamonds, gold (*kin*), copper (*tung*), iron (*tee*), lead (*yuen*) and tin (*seih*).[4]

Of the metals, gold was available in plenty in India. Herodotus,[5] Pliny[6] and Pausanias[7] refer to its abundance in this country. Kauṭilya[8] says that much gold was available in the south. The rocks of the transition series (in the Maski, Bomanhal, and Sagar formations) of the Dharwar system are believed to have yielded in the past considerable quantities of gold. Undoubted traces of old workings have been found in this locality. Even now small quantities of gold-dust are washed in some of the streams. The total area of gold-bearing rocks in this territory, as proved by the Geological Survey of India and by the prospecting operations of the Hyderabad (Deccan) Company, is 1,240 sq. miles. The first band of rock lies between the Tuṅgabhadrā and Kṛishṇā rivers and is composed essentially of a schistose black hornblendic trappoid. The next band is Bomanhal extending from the left bank of the Kṛishṇā west of Surapur for about 20 miles, and disappearing under the black cotton soil between the Bhīmā and the Kṛishṇā. This band is not more than three miles in width and is chiefly composed of hornblendic schists. Undoubted traces of old workings have been found in this locality. The third band, that of Sagar between Sagar and Surapur, is not of much importance.[1]

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[1] R.G. Basak (ed.), *Pravarasena's Rāvanavahamahākāvyam*, I. 56.

[2] *Mbh.*, Vana. 64.

[3] *Nat. Hist.* XXVII, 76.

[4] Ma Twan-lin, *Chinese Account of India* (translated from the *Wan-heen-t'hung-kaou* or *Deep Researches into Ancient Monuments*), Book 338, fol. 14 ; see also *FNSI*, p. 83.

[5] III, 106.

[6] *Nat. Hist.* XXIV. 21.

[7] III, xii. 3.

[8] *AS.* VII, 12.

In the Tamil literature,[2] the Western Ghāṭs in the Konkan and Tulu have been described as producing gold. The gold, which, according to the *Paṭṭinappalai*,[3] was imported to Puhar from the northern mountains towards the west, probably came from this source. The mining of gold in the Deccan appears to have been conducted from very early times. Besides the well-known Kolar mines, traces of early gold workings have been found at Hatti, Wondapalli and Maski, all situated in the Raichur District of the former state of Hyderabad.[4] It is suggested on chemical analysis that the gold ornaments discovered at Mohenjodaro were made of gold mined in the Deccan.[5] The *Bible*[6] records that Solomon sent his ships hired from the Tyrians to Sophir or Ophir and procured gold and precious stones from there. Some scholars trace the name of Supārā in that of Ophir and point out that with an initial *S* Ophir becomes Sophir, which is the Coptic name for India and is very close to Sophārā, which is the Septuagini form of the name.[1] It has been suggested that Nebuchandnezar (606-561 B.C.) imported gold from Western India[2] and this lends support to the location of Ophir on the West Indian Coast. To the Greeks, the 'gold of Ophir' was known as *apyron*, which according to Diodorus Siculus, was not derived by melting ores but was found in the earth in shining lumps of the size of chestnuts. Agatharcides and Pliny[3] were both acquainted with the *apyron* gold. The *Śilappadikāram*[4] refers to the following varieties of gold available in the market of South India, *viz.*, *jātarūpa*, *kiḷichchiṛai* (parrots' wings), *āḍakam* and *jāmbūnadam*.

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[1] *Imp. Gaz.*, Vol. XIII, pp. 261ff.

[2] *Aham.*, 70 ; see also S. Krisnaswami Aiyangar, *Ancient India and South Indian History and Culture*, Vol. I, p. 800.

[3] Krishnaswami Aiyangar, *op. cit.*, p. 801.

[4] *EHD*, p. 139.

[5] Marshall, *Mohenjodaro and the Indus Civilisation*, Vol.I, pp. 29f.

[6] I. *Kings*. x.

Lead, tin and copper (or possibly brass or bronze) were among the articles imported into the western harbours of India from Egypt in the first century A.D. Pliny[5] was consequently under the impression that neither lead nor copper was produced in India. He is, however, not correct. Smith[6] points out that lead ores, usually in the form of the sulphide known as galena, occur in several parts of India, especially in the regions which formed part of the Andhra kingdom. Traces of gold workings are numerous in the Cuddapah and Karnul Districts, as well as in the Palnad Subdivision of the Guntur District.[7] Mining of copper was also conducted extensively in South India. According to Cosmas,[8] Kalliana (Kalyāṇa) produced copper. The *Periplus*[9] refers to the export of copper from Barygaza. Ancient mines of copper exist in the Karnul and Nellore Districts and other places in India.[10] It has been suggested that the Sātavāhana kings might have worked the lead and copper mines in these regions for their coinage.[11]

Innumerable deposits of iron ore of varying quantities are widely distributed in the Deccan. Good ores are found in the neighbourhood of the ancient port of Aurannoboas (mod. Malvan).[1] Rich deposit of iron also occurs in the Chikiala sandstones and in the Dharwar schists. The proportion of iron in the lateritic and granitic tracts of the old Hyderabad State is considerable. Similar deposits have also been found in the sandstone formations in the Godāvarī and Wardhā valleys. In the tracts situated between the Kṛishṇā and Tuṅgabhadrā rivers, hematite occurs in huge amounts. The rocks of the Kamptee series, developed extensively between the Godāvarī and Wardhā valleys, abound in hard ferruginous pebbles and clay iron ores.[2] These sources were apparently explored in the past. Yudhishṭhira is said to have been presented with the armour by the Dākshiṇātya people when his coronation ceremony took place.[3] The *Periplus*[4] says that iron and steel were exported from the district of Ariaca to the Somali coast and Egypt. According to Schoff,[5] this iron was produced in Hyderabad, a short distance north of Golconda, and was shipped to the Punjab and Persia to be made into steel. The famous Damascus blades of the middle ages were derived mainly from this quarter.[6] The iron and ondanique (andamic of the Persian merchants visiting Venice, an especially fine steel for swords and mirrors) noticed by Marco Polo[7] in the markets of Kerman, according to Yule, were exported from India. The chisels that drilled the granite of the Egyptian obelisks are said to have been of Indian steel.[8] It is included in a list of dutiable articles at Alexandria in a *Digest* of Roman law.[9] The art of melting iron reached such a high level in India that a Greek chemical treatise bears the title *On the tempering of Indian Steel*, and Edrisi remarked : "The Hindus excel in the manufacture of iron. They have also workshops wherein are forged the most famous sabres in the world. It is impossible to find anything to surpass the edge that you get from Indian steel."[1]

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[1] Benfey, *Indien*, pp. 30-32 ; also S.N. Majumdar-Sastri, *op. cit.*, p. 41.

[2] *Bom. Gaz.*, Vol. XIII, Part II, p. 405.

[3] *Nat. Hist.*, XXI, 11.

[4] XIV, p. 208.

[5] *Nat. Hist.* XXXIV, 48.

[6] *ZDMG*, 1903, pp. 610f.

[7] *Loc. cit.*

[8] *FNSI*, p. 89.

[9] Sec. 36.

[10] Smith, *loc. cit* ; also Watt, *op. cit.*, p. 401.

[11] Smith, *loc. cit.* ; also Monoranjan Ghosh, 'Andhra Coinage and Its Value', *POC*, 1928, p. 147.

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[1] Schoff, *op. cit.*, p. 202.

[2] *Imp. Gaz.*, Vol. XIII, pp. 232, 262.

[3] *Mbh.*, Sabhā, LII.

[4] Sec. 6.

[5] Schoff, *op. cit.*, p. 172.

[6] Ball (ed.), *Tavernier's Travel*, I, p. 157.

[7] H. Yule and Cordier (ed.), *Travels of Marco-Polo*, Bk. I, ch. 17.

[8] Shaw, *Egypt*, p. 364 ; *Bomb. Gaz.*, Vol. XIII, part II, p. 416.

[9] Mommsen (ed.), *Corpus Juris Civilis*, Vol. I : *Institutiones Digesta*, p. 606.

Of other minerals, by far the most important were diamonds and other precious and semiprecious stones.[2] Pliny ascribes the epithet 'gem-bearing'[3] to India and gives a list of India's precious stones. This list, of which several items are obscure or ambiguous, includes diamond, beryl (and its imitation), opal, sardonyx, onyx, carbuncle, carnelian, amethyst, hyacinth and agate.[4] The *Bṛihatsaṁhitā*[5] gives the following list of gems : diamond (*vajra*), sapphire (*indranīla*), agate (*kekatara*), ruby (*padmarāga*), blood-stone (*rudhirākshya*), beryl (*vaidūrya*), amethyst (*pulaka*), *vimalaka*, royal gem (*rājamaṇi*, quartz ?) crystal (*sphaṭika*), moon gem (*śaśikānta*), *saugandhika*, opal (*gomeda*), conch (*śaṅkha*), azure-stone (*mahānīla*), topaz (*pushparāga*), *brahma* gem, *jyotirāsa*, *sasyaha*, pearl (*muktā*) and coral (*pravāla*). Pliny[6] says that diamond possessed the greatest value, not only among the precious stones, but of all human possessions ; and, as Watt[7] says, India was for long the only source of diamonds known to European nations. Kauṭilya[8] says that diamonds and precious stones were available in plenty in the south. During the coronation ceremony of Rāma, the *Samudras* of Aparānta and the people of Dākshiṇātya offered him jewels.[9] The South Indian envoy to China, referred to above, stated that his land produced diamonds resembling amethysts (*tse-shih-ying*). When purified in the fire without melting, this diamond was used to cut jasper (*you* stone). In the *Arthāsāstra*,[10] six kinds of diamonds are mentioned. These are *sabhārāshṭraka*, *madhyamarāshṭraka*, *kāśmaka* (*kāntīra* or *kāśmīra*)-*rāshṭraka*, *śrīkaṭanaka*, *maṇimantaka*, and *indravānaka*.

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[1] See Schoff, *op. cit.*, p. 71.

[2] For a discussion on the distribution of precious and semi-precious stone in India, see J. Coggin Brown, *India's Mineral Wealth*, pp. 283ff.

[3] *Nat. Hist.* XXVII, 76.

[4] *Ibid.*, XXXVII.

[5] LXXX. 4-5.

[6] *Nat. Hist.* XXXVII, 15.

[7] *Op. cit.*, p. 556.

[8] *AS*, VII, 12.

[9] *Rām.* Ayodhyā, 82.

[10] II, 11.

According to the commentator, *sabhārāshṭraka* was found in the Vidarbha country. *Madhyamarāshṭraka*, according to the same authority, was available in Kosala. As regards the third kind of diamond mentioned in the list, the case is still open to doubt and the text offers three different readings as indicated above. The commentary adopts only the reading *kāśmakarāshṭraka* and explains it as obtained from the country round Vārāṇasī ; but the different readings of the text do not lead us to any conclusion. This name may be a later interpolation or a textual corruption.[1] Nothing definite can be said about *śrīkaṭanaka*, *maṇimantaka* and *indravānaka*. The commentary informs us that Mount Maṇimant was in the Uttarāpatha (*Uttarāpathavartin*). As to Mount Indravat, the commentary places it in the Kaliṅga country. The *Garuḍa Purāṇa*[2] gives us a list of eight places as the sources of diamonds, *viz*. Himālaya, Mātaṅga, Surāshṭra, Puṇḍra, Kaliṅga, Kosala, Veṇvātaṭa and Sauvīra. Of these the diamonds of Veṇvātaṭa glittered like the moon (*śāsīprabha*), those of Kaliṅga were golden, and of Kosala yellowish (*pīta*).[3] Varāhamihira[4] says that diamonds procured from the banks of the Veṇā river are of the purest kind ; those of Kosala have the lustre of the *śirīsha* flower (*i.e.* whitish yellow) ; those of Surāshṭra, a reddish lustre ; those of the Saurpāraka country are dark in colour ; those of the Mātaṅga country have the colour (grey) of *valla* blossoms ; and those of Puṇḍra, black. Varāhamihira says that diamonds have three different sources, *viz*. rivers, mines and other places where gems are found.[5]

It appears from what has been said above that India in general, and the Deccan in particular, was a great source of diamond. "The region of the diamond fields" referred to in literature[6] has been located by competent authorities in the quadrangle containing the portion of the country from Chuddapah to the river Kṛishṇā, and then down the left bank of that river to complete the boundary.[1] From the remote past, diamond mines have been worked in the alluvial deposits round about Partyal, near the Kṛishṇā, as well as in other localities in the alluvial tracts of the same river. The Partyal diamond-bearing layer is about 10 to 16 inches thick and is concealed by black cotton-soil.[2] References to the Deccanese diamonds occur frequently in the writings of the foreign travellers.[3] Marco Polo[4] wrote of the diamond mines in the Guntur District ; Varthema[5] gave an account of the diamonds of Cambay ; Gracia de Orta[6] referred to the diamond mines of the east such as those of 'Bisnagar' (Vijaynagar) and the 'Decam' (Deccan) ; Fryer[7] and Thevenot[8] spoke of the diamonds of Golconda ; Tavernier[9] mentioned the diamond mines at Kollur where as many as 60,000 people were employed. Holland[10] remarks that the places, which according to the accounts, have been most productive in the past form three great groups, each in association with the old unfossiliferous rocks of probably pre-Cambrian age, now known as the *Purana* group, and distinguished as the Chuddapah and Karnul systems in south India, and as the Vindhyan system in the northern part of the Peninsula. The southern most of the three groups of diamond-occurrences includes localities in the districts of Chuddapah, Bellary, Karnul, Krishna and Godavari. Loose stones have been picked up on the surface of the ground, found in deposits of alluvium and in the workings which have been undertaken in the so-called Banaganpilly stage of the Karnul series of strata. In the second group of occurrences, in the Mahānadī valley, the stones have been found in the alluvium of the Sambalpur and Chanda Districts, and though strata similar to the Vindhyan and Karnul systems are known in this area, no diamonds have been found in these older rocks. The third group of occurrences occupies a tract some sixty miles long by ten miles wide, with the Vindhyan conglomerates near Panna as the centre.

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[1] Cf. H.V. Trivedi, 'Geography of Kautilya', *IC*, Vol. I, p. 256.

[2] LXVIII, 16-18.

[3] Diamonds of the Himālaya and Surāshṭra are described as red-brown like copper, of Sauvira like blue lotus and lamb in colour, of Puṇḍra black and Mātaṅga, light yellowish.

[4] *Bṛihat Saṁhitā*, LXXX, 6-7.

[5] Cf. also *AS*, II. 11.

[6] See Beal, *Romantic History of Buddha*, p. 287. The oldest hitherto accessible Western version of the legend of the Diamond Valley is contained in the writings of Epiphanius, Bishop of Constantia in Cyprus (c. A.D. 315-403), See *FNSI*, p. 84.

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[1] Foulkes, 'The Dakhan in the time of Gautama Buddha,' *IA*, Vol. XVI, p. 4.

[2] *Imp. Gaz.*, Vol. XXII, p. 262.

[3] See Watt, *op. cit.*, p. 556.

[4] *Infra.*

[5] *Travels*, ed., Hakl. Soc, 1863, 107.

[6] Coll. XLII ; also in Ball, *Proc. Roy. Ir. Acad.*, 3rd Sec. 1890, i. pp. 657-61.

[7] *New Acc. E. Ind. and Pers.*, 1675 pp. 182, 212-14.

[8] *Travels in Levant, Indostan* etc., 1087, Part iii, 98-100, 104.

[9] *Travels*, II, p. 330, (Vangavasi ed.).

[10] Quoted by Watt, *op. cit.*, pp. 556f.

Marco Polo[1] gives an interesting account of the way by which the Indians obtained diamonds from the mines. Thus, referring to the kingdom of Mutfili (Motupalli and the neighbouring region in the Gantur District), the traveller says, "There are certain lofty mountains in those parts, and when the winter rains fall, which are very heavy, the waters come roaring down the mountains in great torrents. When the rains are over, and the waters from the mountains have ceased to flow, they search the beds of the torrents and find plenty of diamonds . . . Now among these mountains, there are certain great and deep valleys, to the bottom of which there is no access. Wherefore the men who go in search of the diamonds take with them pieces of flesh, as lean as they can get, and these they cast into the bottom of a valley. Now there are numbers of white eagles that haunt those mountains and feed upon the serpents. When the eagles see the meat thrown down, they pounce upon it and carry it up to some rocky hill-top where they begin to round it. But there are men on the watch, and as they see that the eagles have settled they raise a loud shouting to drive them away. And, when the eagles are thus frightened away, the men recover the pieces of meat, and find them full of diamonds which have stuck to the meat down in the bottom . . . There is also another way of getting the diamonds. The people go to the nests of those white eagles, of which there are many, and in their droppings they find plenty of diamonds which the birds have swallowed in devouring the meat that was cast into the valleys. And, when the eagles themselves are taken, diamonds are found in their stomachs." A vague reference to this method for obtaining precious stones is to be found in a much early account written by Chang Yue (667-730)[2]. Nicolo Conti[3] also speaks about Indian diamonds obtainable only by flinging pieces of meat on the mountain "where the diamonds could not be collected owing to the number of serpents". The pieces of meat with diamonds sticking to them were then carried to their nests by birds of prey whence they were recovered by diamond seekers. Ball[1] observes, "This myth is founded on the very common practice in India on the opening of a mine, to offer up cattle to propitiate the evil spirits who are supposed to guard treasure . . . these being represented by myth." Birds of prey assembled at such sacrifices to pick up what they could sustain the rest of the story.

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[1] *Travels*, Bk. III, ch. 19 ; *FNSI*, pp. 174-75.

[2] *FNSI*, pp. 84f.

[3] See Schoff, *The Periphlus* p. 225.

Vaidūrya (beryl),[2] which, with its bluish green variety, *acquamarine*, may be ranked above the quartzes as a gem-stone, was to be found, according to the *Bṛihatsaṁhitā*,[3] in the southern division of India. The *Garuḍa Purāṇa*[4] locates the source of the *vaidūrya* at the border of Kāmabhūtika in the neighbourhood of the Vidūra mountain. According to a commentary of the *Arthaśāstra* (II. 11) referred to by Shamasastry, the mountains, such as the Vindhya, the Vidūra and the part of the Malaya, which possesses the same characteristics as the Vindhya, and the Strīrājya (Malabar) are the sources of the *vaidūrya* and other gems. The southern Vindhyas or the Satpura and the northern part of the Western Ghāṭs[5] must have been the Vaidūrya chain or the Orudian mountain of Ptolemy,[6] stated in the *Mahābhārata*[7] to have been crossed by the Pāṇḍavas in their pilgrimage from Vidarbha to the Narmadā. The mountain was so called evidently after the costly gem available there. Ptolemy[8] states that Pounnata also produced beryl. The place is known in South Indian inscription as Punnāḍa. Yule places it in his map near Seringapatam.[1] Wheeler[2] points out that beryl was long mined near Coimbatore in Madras, in the mica-bearing pegmatites at Govindasagar, Ajmer District in Rajasthan, near Nellore in Andhra, and near Malkot in Mysore. Pliny[3] says, "The lapidaries cut all beryls of a hexagonal form, because the colour which is deadened by a dull uniformity of the surface, is heightened by the reflection from the angles. If they are cut in any other way, these stones have no brilliancy whatever (the crystals are naturally hexahedral). The most esteemed beryls are those which in colour resemble the pure green of the sea . . . The people of India are marvellously fond of beryls of an elongated form, and say that these are the only precious stones they prefer wearing with the addition of gold." Indian beryls were highly prized in the Western world and most of the beryls found in the Roman markets came from India.[4]

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[1] *Tavernier's Travels*, II, p. 461.

[2] "That which is of the colour of blue lotus flower, or of *śirīsha* (acacia sirisa), or of water, or of fresh bamboo, or of the colour of the feathers of a parrot is the *vaidūrya* gem," *AS*, II, 11.

[3] XIV, 14.

[4] LXXIII, 3.

[5] H.C. Raychaudhuri, *Studies in Indian Antiquities*, p. 131.

[6] Majumdar-Sastri, *ap. cit.*, p. 78.

[7] Vana. 87, 89, 121.

[8] Majumdar-Sastri, *op. cit.*, p. 181.

Emerald (*marakata*), a stone of green brilliance, was exported from the western coast of India for long.[5] In the 6th century the diamond of Sopara,[6] which probably included emerald, was very famous to the foreigners. Pliny[7] has a *Lithos Kallianos*, whose name suggests that it may be the Sopara stone whose place of export shifted to Kalyāṇa. Masudi's Sanjan stone, also described as an emerald,[8] is perhaps still the same stone, the trade or the workers having moved to Sanjan.[9]

The *Periplus*[10] says that sapphire (*indranīlamaṇi*) was exported from the Malabar coast. It is a transparent variety of corundum or native alumina, composed of oxide of alumina with traces of other substances to which its colour is due. The colour varies from the palest blue to deep indigo, while violet, yellow and green varieties are also met with. Gracia de Orta[1] found in 'Calicut, Cananor and in many parts of the kingdom of Bisnagar' both dark and light varieties, the latter being called *safira de agua* (water sapphire).

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[1] *IA*, Vol. XII, p. 13.

[2] *Anct. India.*, 1946, No. 2, p. 123.

[3] *Nat. Hist.*, XXXVII. 20.

[4] *Loc. cit.*

[5] *BG*, Vol. XIII, Part II, p. 416.

JRAS, 1875, p. 125.

[7] *Nat. Hist.* XXXVII, 33 ; Schoff identifies the Calliana stone of Pliny with turquoise of the *Periplus* and says that it came from Khorasan (*The Periplus of the Erytheraean Sea*, p. 170.).

[8] *Prairies d'Or*, III, 47, 48.

[9] *BG*, Vol. XIII. Part II, p. 416.

[10] Sec. 56.

Agate (*kekatara*), carnelian, onyx, opal and jasper, a group of chalcedonic quartz, occur largely in the amygdaloidal lava flows of the Deccan and the Rajmahal Trap. The important centres, however, are in Cambay and Ahmedabad though the stones occur also in the alluvium of the Kṛishṇā river near Guntur and in the Godāvarī near Rajahmundry. Agates are concretionary masses of nodules and found usually in hollows or veins in volcanic rocks and sometimes in beds of streams.[2] The chief varieties of agate are chalcedony with colours in parallel bars, mokha stones, moss agates, chrysoprase (an apple green stone), plasma (a grass green stone), carnelian or red chalcedony and blood stones. We may note here that, according to the *Garuḍa Purāṇa*,[1] blood stone (*rudhirākhya*) is available in the lower valley of the Narmadā where Agni threw the image (*rūpa*) of the slain demon Balāsura. The earliest definite reference in literature to the export of agate and carnelian from this part to Egypt and other Western countries occurs in the *Periplus*. Here it is stated that, from Paethana great quantities of carnelian were brought to Barygaza by wagons and through great tracts[2] and then exported to the foreign markets.[3] The *Ezekiel*, XXVII. 16 also probably refers to the agate of the Deccan. In the *Life of Apollonius of Tyana*[4] is an apparent allusion to the working of agate and carnelian by the Indians. It is not unlikely, as Schoff[5] thinks, that the murrhine of Pliny[6] is the Cambay agate.[7]

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[1] *Coll.*, XLIV.

[2] In its natural state the agate is of a dull cloudy brown or yellow colour. After being dug out the pebbles are divided into two primary classes,— those that are not improved in colour by burning and those that are. Of the former there are three— onyx, cat's eye, and a yellow half-clear pebble called *rori* or *losania*. All other stones are baked to bring out their colour. During the hot season, generally in March and April, the stones are spread in the sun, in an open field. Then in May, a trench, two feet deep by three feet wide, is dug round the field. The pebbles are gathered in earthen pots, which, with their mouths down and a hole broken at their bottom, are set in a row in the trench. Round the pots, goat-dung or cow-dung cakes are piled, and the whole kept burning from sunset to sunrise. By this process of exposure to sun and fire the colours of the stones are deepened and become more pronounced. Thus the light shades of the brown turn to white and the dark ones to chestnut ; maize-coloured stones become rosy-tinted, orange stones become red, and yellow stones become pinkish purple ; cloudy browns and yellows mixed become marked by bands of white and red. The hue of red carnelian varies from palest flesh to deepest blood red. The best are of a deep, clear and even red colour, free from cracks, flaws or veins. The larger and thicker the stone, the more valuable. White carnelians are scarce. When large, thick, even coloured and free from flaws, they are highly prized ; yellow and variegated stones are worth little. After classification the good ones are stowed in bags and about the end of May the bags are carried to the Narmadā and floated to Broach for sale to the carnelian dealers. See Watt, *op. cit.*, p. 562.

Onyx, a variety of agate, with the colours arranged in flat horizontal planes, is plentiful in the crystal pits in the Betul District and occurs near Amerwara in Chhindwara. The 'onyx stone' which, according to the *Genesis*, II. 12, reached the ancient world through the 'land of Havilah' on the Persian Gulf, probably originated in this part of the world. Pliny[8] says that Indian onyxes were the most excellent after those found in Karmania. Zenothemis and Sotones refer to the various types of Indian onyxes.[9] India, as described by Pliny,[10] was the only mother of opal stones, which were next in value to emeralds. As an example of the extraordinary value of this stone, Pliny[11] refers to an opal ring of Senator Nonius the price of which, according to the most probable computation amounted to 2600000 *sesterti*. The Roman author's statement that the only source of opal was India is confirmed by the occurrence of red opals and semi-opals in Vijayapura, Sitabuldi, Sawilghara, Doondergaon and Bawari in the Deccan.[1]

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[1] LXXVIII, 3.

[2] Sec. 49.

[3] Sec. 51.

[4] Loeb. ed., Vol. I, Bk. III, 27.

[5] *The Periplus*, p. 194 ; also Watt, *op. cit.*, p. 561.

[6] *Nat. Hist.* XXXVII, 7, 8.

[7] Cf. also the accounts of Varthema (Hakluyt Soc. ed., pp. 106, 107) and Barbosa (Vol. I, pp. 6, 12, 15, 33, 136, 137, 142-45) which mention the export of agate and carnelian from Cambay.

[8] *Nat. Hist.* XXXV, 12, 2 ; XXXVII, 23, 1, 2.

[9] *JBORS*, Vol. X. p. 242.

[10] *Nat. Hist.* XXVII, 12, 1f.

[11] *Ibid.*, XXXVII, 22, 1f.

Jasper, an onartzose mineral of a red or yellow colour, is found in abundance in the Deccan. Bright red stones are common in the rocks of the Narmadā valley and ordinary jasper often occurs among the Deccan agates. The Sandur hills in Bellary produce fine specimens of ribbon jasper, while yellow jasper occurs in Tenasserim. Red jasper from India was much esteemed in the Roman world and was known as 'hematites'.[2]

India has always been the most plentiful source of the finest red sard which comes chiefly from the Deccan traps, especially with agates from Ratanpur (near Broach) in Rajpipla. Ptolemy[3] says that the source of the sardonyx (sard) was the Mount Sardonyx which is a short range, a branch of the Vindhya, lying between the Narmadā and the Tāptī. It is mentioned by Ktesias[4] under the name of Mount Sardous. It has mines of the carnelian of which the sardian is a species. According to Pliny,[5] the distinguishing quality of the Indian sardonyx is its colour which resembling the colour of flesh shines through the scales.

The *Garuḍa Purāṇa*[6] refers to two other kinds of gems, *viz. indragopamaṇi* and *tailasphaṭika*. The former is like the *pilu* fruit in shape and its colour is like that of the beak of a parrot (*śuka*). The gem is said to have originated from the image (*rūpa*) of Balāsura thrown by Agni in the lower Narmadā valley. *Tailasphaṭika* on the other hand grew out of the fat (*meda*) of the said demon, which was scattered by Balarāma over Kavera, Vindhya, Yāvana, Chīna and Nepāla. It is white like the lotus stalk and conch shell, but is also available in some other colours. It is considered to be an auspicious gem.

Like the mountains, rocks and the river-beds the sea also is the source of many hidden treasures. The foremost of these is pearl which was fished extensively in the South.[7] The chief centres of pearl-fishing were the straits between the Pāṇḍya kingdom and Ceylon though the Maharashtra coast also seems to have yielded a certain quantity of pearl. According to Pliny,[1] pearl constituted one of the chief exports from Perimula. This place has been identified with Symulla or Chaul by Yule.[2] Aelian[3] refers to the pearl-fishing in the coast of Perimuda, apparently the Perimula of Pliny. The Greek writer says that this city was inhabited by a race of fish-eaters who used to go off with nets and catch oysters containing pearl in a great bay by which a vast extent of the coast was inundated. He further gives an interesting but fanciful description of pearl-fishing: "It is said that the pearl grows upon a shell like that of a large mussel, and that the oysters swim in great shoals and have leaders, just as bees in their hives have their queen-bees. I learn further that the leader is bigger and more beautifully coloured than the others, and that in consequence the divers have a keen struggle in the depths as to which of them would catch him, since when he is taken they catch also the entire shoal, now left, so to speak, forlorn and leaderless, so that it stirs not, and like a flock of sheep that has lost its shepherd, no longer moves forward against any incipient danger. As long, however, as the leader escapes and skilfully evades capture, he guides their movements and upholds discipline. Such as are caught are put into tubs to decay, and when the flesh has rotten and run off nothing is left but the round pebble."[4] In the 12th century, Edrisi[5] noticed the fishing of pearls off the coast of Sopara. It is still found in the Bazsein creek.[6] That pearl was also available in plenty in the Kaliṅga coast is suggested by the statement of Hiuen Tsang[7] that the currency of the Kaliṅga was cowries and pearls.

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[1] *JBORS*, Vol. X, pp. 243f.

[2] Warmington, *The Commerce between the Roman Empire and India*, p. 244.

[3] S.N. Majumdar-Sastri, *op. cit.*, p. 75.

[4] *Frag.* 8.

[5] *Nat. Hist.*, XXVI, 23, 2.

[6] LXXIX, 1-3.

[7] *AS*, VII, 12.

Salt, a mineral of everyday-use, was obtained by evaporation of sea-water in the numerous salt-pans along the sea-coast.[8]

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[1] *Nat. Hist.* VI, 54.

[2] *IA*, Vol. II, p. 96 ; see also Majumdar-Sastri, *op. cit.*, p. 201.

[3] XV. 8.

[4] For a detailed description of pearl-fishing, see Schoff, *op.cit.*, pp. 39ff.

[5] Elliot and Dowson, *op. cit.*, Vol. I, p. 85.

[6] *Bomb. Gaz.*, Vol. XIII, Part II, p. 416.

[7] Watters, *op. cit.*, p. 197.

[8] *Imp. Gaz.*, Vol. XVI, p. 288.

Hiuen Tsang[1] says that in the kingdom of Bharukachchha salt was made by boiling sea-water. In the *Bharu Jātaka*,[2] Bodhisattva is described as coming down along with his 500 ascetic disciples to Bharu (kachchha) from the Himālaya to buy salt and spices. The soil also sometimes yielded salt. In the old Hyderabad state saline deposits are found.[3] Salt mines existed in Berar until very recent times, Lonar (Skt. *Lavaṇākara*) in the Buldana District, being specially noted for them.[4] Bhagwanlal Indraji[5] gives details regarding the manner of digging the soil for salt.

The variety of metals, precious and semi-precious stones and pearls referred to in the literature prove that the science of mineralogy and metallurgy[6] and the gem industry reached a high level. The *Gāthāsaptaśatī*[7] by way of referring to the untrained (*duḥśikshita*) jeweller, who destroys the gem by rubbing it unnecessarily on the touchstone, suggests that a jeweller should have the knowledge of gems and efficiency in the art of its examination. The science of testing gem is recognised in a *Divyāvadāna* story[8] and included by Vātsyāyana[9] in a list of the sixty-four fine arts. In the description of a city the *Śilappadikāram*[10] speaks of a street inhabited by the expert dealers in diamonds which reflected the colours of the four castes (*viz.*, white, red, green and black which are distinguished in diamonds), emeralds of green brilliance, the *māṇikkam* variety known as *padumam*, *nīlam*, *bindu* and *sphaṭika*, the *pusparāga* set with gold resembling a cat's eye, the beautiful sardonyx with the faultless brilliance of the sun, the blue gem with crystallised darkness, the double coloured *vaidūrya*, the good gems of five different kinds born from a common source

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[1] Watters, *op. cit.*, p. 241.

[2] II. 213.

[3] *Imp. Gaz.*, Vol. XIII, p. 262.

[4] *Jour. of the Nag. Univ.*, No. 3, 1937, p. 24.

[5] *Bom. Gaz.*, Vol. XVI, pp. 179, 556.

[6] Cf. *AS*, II. 12, where large varieties of alloys, processes for extracting metals from ores, the chemical test of metallic substances on acid and alkaline matter are all treated in detail.

[7] VII, 27.

[8] *Divya.*, pp. 26, 100.

[9] *Kāmasūtra*, I. 3, 16.

[10] XIV, p. 207.

(the common source of the gems was crystal quartz) and glimmering like the setting sun, well-formed corals, as well as heaps of white pearls (*chandrāguru*), pink-lustred pearls (*aṅgāraka*) and pearls of the finest quality (*āṇimuttu*).

In ancient India, mines were considered to be a royal monopoly[1]. Many grants of the medieval period[2] register gift of land along with the right of mining iron and salt (*salohalavaṇākara*) indicating thereby that mines of iron and salt were state properties. Kauṭilya[3] says that any person who steals mineral products or carries on mining operations without licence shall be bound (with chains) and caused to work (as a prisoner). As stated above, like other mineral products the manufacture of salt was also a royal monopoly.[4] This explains why the epigraphs so often grant immunity to the donee from digging salt in the donated land.[5] Kauṭilya[6] says that the superintendent of the ocean-mines shall attend to the collection of salt and regulate the commerce of this commodity. Soon after the crystallisation of salt is over he shall in time collect both the amounts to be paid and the salt due to the government. He is further advised to punish with the highest amercement persons (other than hermits) manufacturing salt without licence.

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[1] *ākarebhya sarvamādadyāt*, *Vishṇu*, III. 35.

[2] Eg., *EI*, Vol. IV, pp. 106ff.

[3] *AS*, II. 12.

[4] Cf. *ākare lavaṇe śulke tare nāgavale tathā|*
nyasedamātyannṛipatiḥ svāptān vā pursushān hitān|| *Mbh.*, Śānti. 69.

[5] Cf. Nasik ins., Nos. 3 and 4; Karle ins., No. 19 ; *CII*, Vol. III, No. 55 and No. 56 ; *EI*, Vols. I, p. 6 ; IV, p. 106 ; VI, pp. 86, 315 etc.

[6] *AS*, II. 12.

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Crafts and Industrial Arts

OF all the industries that thrived in the Deccan, the art of weaving reached a flourishing stage. We have already seen that 'the Deccan trap' or 'the Deccan Lava region', covering almost entirely the region included between the 16th and 22nd parallels of latitude, together with the greater part of the Kathiawar Peninsula and a large portion of Kutch, is particularly favourable for cotton cultivation.[1] Here, therefore, developed from very early times numerous centres of textile industry. In an *Arthaśāstra* list[2] of places producing best stuff of cotton fabrics, Aparānta and Kaliṅga occur side by side with Madhura, Vatsa and Mahīśa. Kanakasabhai[3] points out that the Nāgas of the Kaliṅga country were so famous in the art of weaving that the word *kaliṅgam* in Tamil came to signify 'cloth'. In the Gilgit texts,[4] the limbs of *strīratna* are described as soft to the touch as a scarf from Kaliṅga (*Kaliṅgaprāvāra*). In the Andhra country also, there were many weavers from whom the state derived a regular revenue.[5] It was in the quarter of a weaver that Bodhisattva found his shelter while he was in Andhra.[6] Though weaving was pursued apparently on a professional basis almost everywhere in the Deccan, the natural home of the industry was in its western sector where the raw materials were produced in abundance. To the foreigners, the country adjoining Barygaza, particularly the land of the Ābhīras, was famous for cotton and the cloth made therefrom.[1] Cosmas[2] informs us that Calliena (Kalyāṇa) produced materials for dresses. It seems very likely that the rich garments and saffron-coloured shawls with golden borders with which the Kuntala king won over to his side all the enemy's feudatories in his fight against the ruler of Vidarbha were the products of his country.[3] Codrington[4] recognises traces of gold-brocades in the Ajanta paintings. Thus in cave XVI, where Sujātā is shown with her bowl of food, she wears a white short-sleeved vest coming down well below the waist and divided at the sides in the usual way, and under it waist-cloth of stiff black materials scrolled all over seemingly in gold or silver. Again, in the *Haṁsa Jātaka* fresco in cave XVII the king is shown seated apart in deep converse with the Bodhisattva, screened by a series of hangings, one of which is of a deep red colour and has the same scrolling. The art of the weaving of patterned textiles that are dyed separately in the warp and woof probably originated in the western Deccan and then spread far and wide, Sumatra being now famed for it. This art requires the preliminary setting out of the warp and woof and the application to them of knotted resists of either fibre or bark, the process being repeated according to the colour-scheme and pattern. Only after weaving the design is realised. Here again the patterns are perforce largely geometrical, and, among these devices one finds the elephant, lion and swan motives, both in the *Poṭolī* marriage *śārīs* of Gujarat and in the *ikat* woven fabrics of Sumatra. The Burmese examples of the art, found in the southern Shan states, correspond closely to the Ajanta waist-cloth and there is little doubt as to their technical origin.[1]

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[1] Above, p. 6. *Imp. Gaz.*, Vol. VIII, pp. 272f; Appadorai, *Economic Conditions in Southern India*, Vol. I, p. 55.

[2] II. 11.

[3] *Tamils Eighteen Hundred Years Ago*, p. 45.

[4] Vol. III, Part I, p. 36. See also *Prince of Wales Museum Bulletin*, 1957-59, No. 6, p. 28.

[5] *EI*, Vol. XXIV, p. 298.

[6] *Jāt.*, I. 80.

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[1] *The Periplus*, Sec. 41 ; cf. also Tavernier's *Travel*, II. XII, "White cotton cloths come to Renonsari (near Surat) and Broach, where they have the means of bleaching them in large fields, on account of lemons growing in the neighbourhood."

[2] *FNSI*, p. 89.

[3] *Daśa.*, VIII, Kale's trans., p. 154.

[4] 'The Culture of Medieval India as illustrated by the Ajanta Frescoes,' *IA*, Vol. LIX, p. 162.

In the *Periplus*,[2] Tagara is referred to as a great centre of textile industry producing muslin, mallow cloth and much ordinary cloth. These were brought to Barygaza for export. From the latter place and the Ariaca coast also were shipped westward yarn, silk cloth, the broad cloth called *monache* and that called *sagmatogene*.[3] Schoff[4] suggests that the mallow cloth was a coarse cotton cloth dyed with a preparation of a variety of the hibiscus native in India. This purplish cloth must have corresponded closely to the coarse blue drills still in demand in the African Coast.

The broad cloth according to Schoff,[5] was something like the modern Somali "tobe".[6] Schoff,[7] however, thinks that these words may be Greek corruptions of some Indian trade-names for different grades or dyes of cloth the particulars of which we cannot determine. The *Divyāvadāna*[8] refers to a class of cloth called *Aparāntaka*. Though the material from which it was manufactured is not known, the name indicates its manufacture in Aparānta meaning the N. Konkan or W. India. The same text[9] speaks of another variety of textile, known as *phuṭṭaka*. A shop at Surpāraka is said to have dealt exclusively in this material which fact suggests the latter's demand in the said locality. According to Mothchandra,[10] *phuṭṭaka* was probably a variety of printed calico. Very favourite to the fashionable section was *paṭṭāṁśuka*[11] which was a kind of silk cloth.

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[1] *Loc. cit.*

[2] Sec. 51.

[3] *The Periplus*, secs. 6, 14, 31, 32, and 49.

[4] *Ibid.*, p. 194.

[5] *Ibid.*, p. 72.

[6] Made of cotton, men's *tobe* is a shawl like garment, about eight cubits long and two breadths sewn together. In the case of women's *tobe*, the edges are knotted generally over the right, sometimes over the left shoulder ; it is girdled round the waist, below which hangs a lappet, which in cold weather can be brought like a hood over the head.

[7] *The Periplus*, p. 72.

[8] Ed. Cowell and Neil, p. 316.

[9] *Op. cit.*, p 29.

[10] 'The History of Indian Costume from the 1st century A.D. to the beginning of the 4th century A.D.', *JISOA*, Vol. VIII, p. 192.

[11] *GS*, VI, 20.

Navaraṅgaka,[1] a saffron-coloured cloth, was some sort of a ladies' wear, used particularly on festive occasions.

The extensive trade conducted by the Indian and foreign merchants in Indian textiles well established the weaving industry. Here and there grew up weavers' guilds (*kolīka-nikāya*), which were so well organised and commanded such public esteem that not only the common men but the rulers also invested their money in them.[2]

The most important craftsmen from the point of view of village economy, however, were not the weavers or tailors, 'as the demand for clothing was low because of the climate and style of dress'. The first among the necessary workmen included the blacksmiths, the workers in iron and steel (*kammāra*,[3] *lohakāra*[4] or *lohavaniya*[5]). As the profession was of vital importance to the rural population, the blacksmith used to get about 1.75% of a peasant's yield ; for new shares, sickles and knives, he had to be given the metal and also extra payment had to be made to him.[6] Megasthenes says that, under the Mauryas, the smiths received subsidy from the royal exchequer and were exempted from paying taxes.[7] But the evidence of the Vilavatti inscription shows that, at least in parts of the Andhra country, they had to pay regular taxes.

[illegible] Smelly

Another important profession from the utilitarian point of view was that of the *kāsākāras* or braziers. The existence of guilds of the braziers and the practice of accepting public endowments by many of them[8] suggest that the industry was already well organised in the Deccan by the beginning of the Christian era.

Of the various articles turned out by the metal-workers, an essential household object was the mirror. Highly polished metal plates were used as mirror in those days. Gopinatha Rao[9] refers to the manufacture of such mirrors even today at Arumula in Travancore. These mirrors are polished with such craftsmanship that they do not show distortion in reflection. Mirrors, painted at Ajanta,[1] are circular and have a cardinal knob behind, pierced to take a ring of cord. "This form is, perhaps, especially associated with China, tanged or handled mirrors being common all over the east, in bronze, brass and steel in Muhammadan times, and notably in Java at a period closely succeeding that of Ajanta." From the Tinnevelly urn-burials come three actual specimens of mirror. Two of these are tanged to take wooden, or perhaps ivory, handles, and the third has the knob at the back. They are of bronze, the face being slightly convex.

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[1] *Ibid.*, III, 41 ; IV, 28 ; V. 61.

[2] Cf. *EI*, Vol. VIII, Nasik ins., No. 12.

[3] Lüders' List, No. 1032.

[4] *EI*, Vol. XXIV., p. 298.

[5] Lüders' List, No. 1055.

[6] Kosambi, *An Introduction to the Study of Indian History*, p. 312.

[7] *Diod.*, II, 41.

[8] Cf. Lüders' List, No. 1165.

[9] *Hindu Iconography*, Vol. I, Part I, p. 12.

The sculptures and paintings of the Deccan depicting richly decorated figures clearly attest to the general fascination for ornaments. These ornaments were usually made of gold and consisted of various types of head-dress (*mukuṭa*), hair-pin, head-band (*agrapaṭṭa* or *lalāṭa paṭṭa*), ear-ring (*karṇaśobhana*), necklace (*kaṇṭhabhūshā*), arm ornament (*bāhubhūshaṇa*), finger-ring (*aṅgurīyaka*), girdle (*mekhalā*) etc.[2] The goldsmiths, whose skilled hands made these ornaments, pursued such a trade which could flourish only in the towns and cities inhabited by fashionable and luxurious people. The *Śilappadikāram*[3] speaks of the city-streets of the goldsmiths where in front of each shop was hoisted a flag—the signpost indicative of the kind of gold available within. The city of Kalyāṇa presumably housed a number of goldsmiths, and an inscription refers to the gift made by one of them at Kanheri.[4] A house at Nagarjunakonda has been identified as a goldsmith's shop which yielded terracotta cubicles, a touchstone, an iron pestle, terracotta and stone weights, terracotta bangles, ear-rings and oblong moulds with designs for ornaments.[5]

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[1] *IA*, Vol. LIX, p. 172.

[2] Cf. A.V. Naik, 'Studies in Nagarjunakonda Sculptures' '(*Bull. Dec. Col. Res. Ins.*, Vol. II, pp. 67ff) ; C. Sivaramamurti, *Amaravati Sculptures* etc. (*Bull. Mad. Govt. Mus. NS*, Vol. IV), see chapter on ornaments ; Motichandra '*Cosmetics and Coiffure in Ancient India*', *JISOA*, Vol. VIII, pp. 123, 139-145.

[3] XIV, p. 207.

[4] Lüders' List, No. 986.

[5] *Ind , Arch.,—A Review*, 1959-60, p. 9, and Plates V B & VI.

The specimens unearthed from the relic of a *Stūpa* at Sopara belonging to the 2nd century A.D. show that the three allied crafts of gold, silver and brass reached a high watermark. Referring to these specimens an observer writes, "The brass gods are excellent castings, sharper and truer than modern Hindu brassware. The skill of the gold and silver smiths is shown in the finely stamped silver coin, in the variety and grace of the gold flowers, and in the shape and tracery of the small central gold casket."[1] The quality of workmanship attained by the goldsmith is also attested by the gold flowers recovered from the ruins of a *Stūpa* at Bhattiprolu and the golden casket in the shape of a miniature *Stūpa* found at Amaravati.[2]

The jewellers (*maṇikāra*)[3] like the goldsmiths satisfied the demand of the wealthy section of society. The *Gāthāsaptaśatī*,[4] while referring to the possibility of a stone getting injury in the hands of an untrained artisan, emphasises indirectly the importance of the proper training of a jeweller. As the Deccan was the source of many valuable stones, the cities and market towns of the region became the home of gem experts. Excavations at Paithan, Maski and Kondapur have yielded beads of lapis lazuli, agate, crystal, carnelian, onyx, amethyst and ruby, while from the Bhattiprolu *Stūpa* have been recovered beryl and crystal caskets containing precious stones, jewels and beads of precious and semi-precious stones.[5] The demand of jewels both in and outside the country made it a developing industry. Indian gems were much coveted in the Roman world and the Thana ports seem for long to have sent westwards a kind of precious stone, which is generally called an emerald, but may have been a Golkonda diamond, or may have included several kinds of stone. From very early times, the Sopara stone was famous.[6] Pliny's[7] *Lithos Kallianos*, as we have seen above, may be the Sopara stone whose place of export then probably was Kalyāṇa. The making of beads out of agates and carnelian also established itself as a lucrative industry in the Cambay basin, from which place these were exported to the west in large quantities.[1] Besides, costly mirrors were made out of rock crystals and sometimes exported to foreign countries. The *Liang se kung tse ki* 'Memoirs of the Four Lords of the Liang Dynasty (502-556)', written by Chang Yue (667-730), contains the story of a highly valued crystal mirror which arrived in China from Western India in a junk of Fu-nan. "It was pure white and transparent on the surface and in the interior, and displayed many . . . coloured things on its obverse. When held against the light and examined its surface was not discernible. On inquiry for the price, it was given at a million strings of copper coins."[2]

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[1] *Bom. Gaz.*, Vol. XIII, Part II, p. 409.

[2] K.R. Subrahmaniyam, *Buddhist Remains in Andhra and the History of Andhra between 225 and* 610 *A.D.*, pp. 22f ; *EHD*, p. 144.

[3] Lüders' List, No. 1005.

[4] VII, 26.

[5] *Ann. Rep. of the Arch. Dept. of HEH the Nizam's Dominions*, F. 1346. 1936-37 A.D. ; *EHD*, p. 144.

[6] *Bom. Gaz.*, Vol. XIII, Part II, p. 416 ; *JRAS*, 1875, p. 125.

[7] Vincent, *The Commerce of the Ancients in the Indian Ocean*, Vol. II, p. 731.

The sculptured and painted replicas of mansions, the ruined *Stūpas*, *Chaitya* halls and temples suggest the existence of workers engaged in building industry. A Jātaka story[3] indicates that, in the building of a king's palace, as many as eighteen types of manual labourers were employed. A passage in the *Maṇimekhalai*[4] describes how, in the construction of the audience hall of the royal palace at Puhar, skilled artisans from Magadha, mechanics from Mārāḍan (Mahārāshṭra), smiths from Avanti, carpenters from Yavana worked together with the artisans of the Tamil land. At Kanheri, when a chaitya hall was constructed, the work was executed by *Bhadata* Bodhika, and his teacher Seuṁha acted as the overseer (? *uparakhita*), through the stone masons (*śelavaḍhaki*), polisher (*mīthika*), *nāyakamisas*, *kaḍhichakas* and *mahākaṭakas*.[5] Though the latter three terms are still unexplained, these apparently signify certain professions associated with constructional works. *Kaḍhichaka* may be Gujarati *kaḍhiyo*, meaning bricklayer.

Perfumery

The scenes of Indian life depicted in the contemporary reliefs and paintings show how much the men and women preferred delicate perfumes. One may see here occasionally "a lady taking her bath, with toilet requisites and cosmetics, unguent-vases, oil-pots lying on the ground surrounded by a number of female attendants holding ornament caskets, water-pots, mirrors etc."[1] A medallion from Amaravati portrays a woman as seated on a bath-stool in a bath tub and attended by three women pouring oil and holding unguents, etc. The women attendants carrying articles of toilet including a mirror are also shown.[2] Not only as beauty-aids, the perfumes and scented powders were used also for decorating the houses and streets. On auspicious occasions these were of much demand. Thus, it is mentioned in the *Divyāvadāna*[3] that the streets of Sūrpāraka at the time of the supposed visit of the Buddha were sprinkled with sandalwood water (*chandanavāri*), fumigated with aromatic gums and woods burning in incense pots (*dhūpa-ghaṭika*) and strewn with flowers. The commonest perfume, with which men and women anointed themselves, was sandalwood paste. In the Kuru war, as Bose[4] points out, the fighters from Andhra are said to be used to rubbing powerded scents, apparently made of sandalwood, on their body.[5] *Gośīrsha*[6] was a superior class of sandalwood and a bundle of it brought as much as one hundred *kārshāpaṇas* and even this was considered to be a bargain price. It seems to have been sold in powder form (*chūrṇaka*) and was difficult to get, at least in Western India, as it is mentioned that the king of Sūrpāraka did not possess it and had to buy it from Pūrṇa at a very heavy price. In the parallel topographical lists of the *Rāmāyaṇa*[7] and the *Saddharmasmṛityupasthānasūtra*,[8] the *gośīrsha* and other varieties of sandalwood are said to be the products of the

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[1] A.J. Arkel, 'Cambay and the Bead Trade', *Antiquity*, Vol. X, pp. 292ff.

[2] See *FNSI*, p. 84.

[3] VI. 427.

[4] XIX, ii, p. 107 ; see also S. Krisnaswami Aiyangar, *Ancient India and South Indian History and Culture*, Vol. I, p. 801.

[5] *ASWI*, Vol. V, Kanheri inscription, No. 4.

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[1] *JISOA*, Vol. VII, p. 96.

[2] Fergusson, *Tree and Serpent Worship*, Pl. LXXII, Fig. I; *JISOA*, Vol. VIII. p. 96.

[3] *tataḥ sūrpārakarājñā sūrpārakanagaram apagatapāshāṇaśarakarakaṭhalaṁ vyāvasthāpitam chandanavāriparishiktaṁ nānāvidhasurabhidhūpaghaṭikāsamalaṁkṛitam āmuktapaṭṭadāmakalāpaṁ nānāpushpābhikirṇaṁ ramaṇīyam|* (*Divya.*, p. 45).

[4] *SRENI*, p. 215.

[5] *Mbh* , Karṇa, XII.

[6] *Divyāvadāna*, pp. 30-31.

[7] Kishkindhā, XLI. 39-40.

[8] *JA*, Vol. II (1918), p. 54.

[illegible]

cf heredity

Ṛishabha hill in the South. For dyeing nails and feet, women used lac (*alaktaka*).[1] Spikenard, costus, bdellium and lycium, which, according to the *Periplus*,[2] were exported from Barygaza, were also ingredients of various types of cosmetics. The demand of aromatics, cool-pastes and scents encouraged the perfumers (*gāndhika*) to develop their industry in different parts of the Deccan. Thus, while a Karle inscription[3] records the gift of the cave-door by a perfumer from Dhānyakaṭaka, another from Pitalkhora[4] refers to the donation of a pillar by the members of perfumer's family who were residents of Pratishṭhāna. Two inscriptions[5] at Amaravati similarly record the gifts made respectively by two perfumers.

Flower was complimentary to the cosmetics and, to supply it, there were many professional florists (*mālākāras*). Since the profession required sufficient specialisation, *viz.*, in the selection of plants and creepers, manures for them, their cultivation and maintenance, and the making of flower-ornaments and garlands, it tended to become hereditary.[6] Sometimes, the female members of the florists' family participated in the trade. The *Gāthāsaptaśatī*[7] refers to the *mālārīs* who sold flowers to the public.

Inscriptions[8] suggests the existence of another class of craftsmen, *viz.*, the leather-workers (*charmakāra*). But no detailed account about the articles produced by them is available.

One of the most important and indispensable craftsmen, particularly from the villagers' point of view, were the carpenters. Not long ago there was a custom to provide these artisans with small plots of cultivable land. As this would not be sufficient inducement for plying the craft, emoluments and perquisites were added that persist in various forms to the present day in many villages.[1] Thus, the carpenters used to receive about 2% of each peasant's yield plus one to eight pounds of grain for sowing their fields ; against this he kept the houses, farm implements and wells in repair. For new constructions, he received additional fees. Macdonell and Keith[2] cite a number of authorities to show the high social position and importance of the carpenters (*rathakāras*). Bühler[3] points out how the ancient Vedic ritual in certain cases admitted the *rathakāras*, who had Śūdra blood in their veins, to the participation in *Śrauta* rites, how the *Taittirīya Brāhmaṇa* gives certain mantras to be recited by the *rathakāras* at the *Agnyādhāna* sacrifice, and how Bodhāyana derives the origin of the *rathakāras* from a Vaiśya male and Śūdra female and explicitly allows them to receive the sacrament of initiation. In East Andhradesa, particularly in the districts of Guntur, Krishna and West and East Godavari, there is a class of *rathakāras* who call themselves Viśva-Brāhmaṇa and claim descent from the primaeval Viśvakarman and regard themselves as even superior to the Brāhmaṇas. They, also known as the *Pañchāṇaṁvāru* (meaning probably the artisans who use the five kinds of tools), are divided into five groups, namely the *Kaṁsāli*, *Kammāra*, *Kañchara*, *Kāsa* and *Vaḍraṅgi*, and follow respectively the professions of the goldsmith, coppersmith, blacksmith, stone-cutter or mason and carpenter.[4]

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[1] *Raghu*, VII, 7.
[2] Sec. 45.
[3] Lüders' List, No. 1090.
[4] *Ibid.*, No. 1187.
[5] *Ibid.*, Nos. 1210 & 1230.
[6] Cf. *Ibid.*, No. 1051.
[7] VI, 96, 98.
[8] Lüders' List, No. 1273 ; *EI*, Vol. XXIV, p. 298.

The potters, an essential element in both rural and urban population, sometimes organised themselves in trade guilds. At Nasik, there was at least one such potters' guild (? *Kularikạ śreṇī*) which used to receive public endowments.[5] For his service to the community, the potter until recently derived from each peasant 1.25% of grain, besides a pound or two as seed for sowing his field ; in return 'he supplied the normal earthen pots used for water, rituals, cooking, but charged extra for specia large vessels, say those needed for storing grain'.[6] The pots and potsherds found at various sites of the Deccan, particularly the Buddhist sites of the Kṛishṇā valley, suggest the richness and variety of the productions of the Sātavāhana period.[1] Mention may in this connection be made of some special wares, such as the painted bowls with grit or cross-lined pattern. These are found widely in sites from the Andhra, Mysore and Madras states. Kondapur is famous for the abundant pottery it has produced.[2] Some of the clay ware produced by them find representation at Ajanta.[3] Of these the spouted water jar may also be recognised at Sanchi and Barhut, Besides this, Codrington distinguishes two main types of pots. "The first is round-bottomed with a substantial rolled rim and a neck of varying length. Squat pots of this kind, with wide mouths were made in diminishing sizes to stack one upon the other. They were often also, as now-a-days, enclosed in a rope net for hanging up. The second type has a rimmed foot and a long neck flaring outwards at the mouth. The ordinary drinking vessel seems to have been a shapely little cup, with a flat narrowly-necked foot. In the fresco in the verandah of Cave XVII, each of the holy men at the feast is provided with two or three of these cups set out on a flat platter-like dish. These tray-like dishes often appear at Ajanta. They were of all sizes, and some seem to have had slip-decoration in stripes." To another fairly well represented class of vessels belong flagons with long necks and sharply pointed bottoms. Some of these are again gadrooned and fluted. The form is strongly un-Indian and seems to be importations from Afghanistan or Indian adaptation thereof. Similarly un-Indian is the unique ware which occurs at the Sātavāhana sites in the Deccan, Kshtrapa sites in Western India and Kushāṇa and Early Gupta sites in Northern India. The most distinctive feature is its fine fabric and texture, which is uniform at all the sites in the Deccan and Western India. This pottery is made of an extremely fine levigated clay, and is burnt uniformly to a brick-red colour. The outer surface has a fine polish, varying from a lacquer red to a dull brown. The treatment of the clay and the very high firing which gives almost a metallic note, when it is struck, no doubt seem to be a foreign technique. They were probably copies of the Roman pottery (specially the Samian) which was imported to India.[1]

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[1] Kosambi, *loc. cit*.
[2] *Vedic Index*, Vol. II, p. 265.
[3] *SBE*, Vol. XIV, pp. XXXVIII— XXXIX.
[4] *EI*, Vol. XXXI, pp. 3f.
[5] *Ibid*., Vol. VIII, 88f, No. 15 ; Lüders' List, No. 1137.
[6] Kosambi, *loc. cit*.

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[1] *The Age of Imperial Unity*, p. 538.

[2] *Loc. cit.*

[3] *IA*, Vol. LIX, p. 171.

Clay-modelling, a craft closely allied to that of the potters, though it is regarded insignificant in these days, occupied almost the same position as sculpture and painting in the early period of the Deccanese art.[2] Unfortunately, available specimens of terracotta figurines in the South are not many. Mention may in this connection be made of some found at Kondapur. Their realistic features and perfect modelling are noteworthy. The variety of the styles and plaiting of hair is also remarkable and some of them 'can stand comparison with the best painted head at Ajanta'.[3]

Besides the potters and clay-modellers, there were the oil-pressers (*tila-pishaka*),[4] workers fabricating hydraulic engines (*odayaṁtrika*),[5] bamboo-workers (*vaṁśakāra*)[6] and confectioners (*puvika*)[7] who organised themselves in guilds. We also hear of the *guḍa-yāntrikas* or the persons operating the machine for extracting juice from sugarcane and preparing sugar therefrom. In return for the service rendered to an individual, they were given a certain portion of the sugar produced.[8]

The industry of fermenting liquor seems to have been much in vogue in our region. Vines are still cultivated in the Nasik District, and the toddy-palm (palmyra) and the *mahuā* tree are common to almost every part of the Peninsula. There was no prohibition for the women to indulge in drinking.[9] Wine of the old variety was a favourite drink[10] while liquor-shops existed for the sale of it.[11] At Ajanta one may witness little wine-cups and certain Bacchanalian scenes, which are paralleled in Kushāṇa sculptures.[1] Referring to the army of Pulakeśin II, Hiuen Tsang[2] remarked, "Each time they prepare for combat they drink wine to intoxicate them . . . Besides, they intoxicate many hundreds of naturally fierce elephants. At the time of their coming to blows they drink also strong liquor." Kālidāsa[3] says that Raghu's army after defeating the Kaliṅga king drank fermented juice of the coconuts. The popular drink among the poorer and the aboriginal section is supposed to be the alcohol prepared from rice. Spirits from rice are said to have been largely consumed in Southern and Western India several centuries ago.[4] Even today the bulk of the spirit consumed by the people of Orissa is manufactured from rice. The primitive process adopted in converting rice into liquor is indicative of its antiquity.[5] The same method is adopted by the Santals, Kols and other aboriginal tribes who prepare their own beer at home, chiefly from rice and sometimes from millets, such as *mārūa* (eleusine).

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[1] Cf. Bendapudi Subbarao, *Baroda Through the Ages*, p. 56.

[2] *ABORI*, Vol. XXII, pp. 171ff.

[3] See *EHD*, p. 144.

[4] Lüders' List, No. 1137.

[5] *Loc. cit.*

[6] *Ibid.*, No. 1165.

[7] *EI*, Vol. XXXV, pp. 4-7.

[8] Cf. *GS*, VI. 54.

[9] *GS*, III, 70 ; VI. 44.

[10] *Ibid.*, II. 97.

[11] *Ibid.*, III. 27.

A class of artisans specialised themselves in the art of ivory-carving. White, durable, hard and yet easy to work ivory was one of the few materials on which the artisan could carve all the intricate designs. At the time of the *Periplus*, Indian supplies of ivory came from Barygaza, Muziris, Nelcynda and Dosarene (Orissa), the last named region producing the best Indian ivory.[6] Bose[7] traces the origin of the name Dantapura, the one-time capital of Kaliṅga, to the same flourishing industry. It is mentioned in the *Mahābhārata* and the *Vishṇu Purāṇa* as the most acceptable offering which the king of the Oḍras took to the Pāṇḍaya sovereign.[8] As to the material remains of ivory-carvings found at various sites in the Deccan, mention may be made of a pierced ivory dagger of miniature size.[9] It was excavated from Sankaram in the Vizagapatam District. The excavations at Kondapur yielded an interesting piece of ivory plaque which shows an elephant with a man and woman seated on it. It also shows a man carrying a woman in his arms and another man leaning on a rod.[1] Two figures,[2] one in ivory and the other, apparently of bone found at Ter, are of great interest for the history of ivory and bone carving in ancient India. From the same place was also received a rather crude bone female figure about 5″ in height. These specimens have been assigned by Motichandra[3] to a date not later than the middle of the 2nd century A.D. The extensive explorations carried on at Begram in Afghanistan by the French Archaeological Delegation[4] resulted in the discovery of a considerable number of ivory plaques, probably representing remains of jewel or toilet caskets of light wooden frames. It has been suggested that some of the plaques with their sketch-like engravings seem to recall Amaravati sculptures of the pre-Christian era. Again "slightly deeper reliefs with the compositions teeming with figures in multitudinous attitudes and poses" favourably compare with the art of Amaravati of the early centuries of the Christian era. The slenderness of the forms and the manner of grouping likewise appear to have been inspired by the same school.[5] It is doubtful whether these specimens originated in the Deccan ; but one thing is certain that these were carved after their prototypes in South India.

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[1] *IA*, Vol. LIX, p. 172.

[2] Bhandarkar, *EHD*, p. 62 ; Watters, *op. cit.*, Vol. II, p. 239.

[3] *Raghu*, IV. 42.

[4] See Watt, *op. cit.*, p. 826.

[5] See J. C. Ray, 'Hindu Method of Manufacturing Spirit from Rice', *JASB*, 1906, pp. 130f.

[6] Cf. *The Periplus*, Secs. 49, 56, 62. *The Hudud al 'Ālam* (pp. 86ff.) mentions that Orissa exported conch shell and ivory.

[7] *SRENI*, p. 212.

[8] R. L. Mitra, *Antiquities of Orissa*, Vol. I, p. 6.

[9] *ASI, AR*, 1907-08, pp. 170-171, Pl. LIX, Fig. 24 ; Motichandra, 'Ancient Indian Ivories', *Prince of Wales Museum Bulletin*, 1957-59, p. 21.

Stone-carving offered a source of living to many. Since the profession required dexterity and skill, persons, willing to master the art, had to work as apprentice under expert sculptors.[6] The title *āchārya* given to these teacher-sculptors, is indicative of the respect commanded by them. The proficiency achieved by the sculptors in their art is exhibited in the extant rock-cut caves and rail-bars of the *Stūpas*.

The paintings of Ajanta seem to have been impossible without a class of professional painters patronised by the kings and the wealthy persons. The story-telling character of many of the stone engravings and the unilocal nature of some of the medallions at Amaravati[1] prove the existence of the folk painters, who narrated stories to the common people by unrolling painted scrolls and thus earned their living.

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[1] Motichandra, *loc. cit.*

[2] Motichandra, *loc. cit.*

[3] *Op. cit* , p. 25.

[4] *Ann. Bib. of Ind. Arch.*, for the year, 1937, Vol, XII, pp. 30-33; J. Hackin, *Researches Archaeologiques a Begram*, Paris, 1939.

[5] See S. K. Saraswati, *A Survey of Indian Sculptures*, pp. 92f.

[6] Cf. Lüders' List, Nos. 1071 and 1186.

A set of three inscriptions hailing from Jagayyapeta records the gift of certain pillars of a *Chaitya* at the latter place by a family of *āvesani* (artisan).[2] It is interesting to note here that, at Sanchi, a gift was made by one Anaṁda, the son of Vāsishṭhī, who was the foreman of the artisans (*āvesanin*) of *rājan* Śrī-Sātakarṇi.[3] We are, however, not in a position to make out the exact craft pursued by these artisans referred to simply as *āvesani*. In any case, their appointment in the royal household suggests the important nature of the craft.

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[1] "These reliefs, whether in medallions or rectangular slabs, also seem to be nothing but *charaṇa-chitras* . . . their general lay-out in square or rectangular panels, one below the other, in more or less continuous narration, cannot but invariably suggest similar arrangement of scenes in *charaṇa-chitras* or *paṭa-chitras* of later folk-pictorial tradition." *The Age of Imperial Unity*, pp. 510f.

[2] Lüders' List, Nos. 1202-4.

[3] *Ibid.*, No. 346.

11

Professions and Occupations

Physician (*Vaidya*)

WHILE a large section of the population was engaged in various crafts and industries, there were other professions by which people earned their livelihood. We may mention the physicians[1] who relieved people of their sufferings from disease. Though a stigma is often attached to the medical profession,[2] the doctors were considered as indispensable element of the local population. A verse in the *Gāthāsaptaśatī*[3] says that a village without any doctor is not fit for living in. In another place, the same text[4] compares the suffering of a girl on account of the absence of her lover with that of a sick person unattended by a physician. Sometimes, there were state physicians whose social status was undoubtedly much above the average. We hear in the *Rāmāyaṇa*[5] that Susheṇa was the *rāja-vaidya* of the monkey state of Kishkindhā. A set of four votive inscriptions at Pitalkhora records the gift of the family of *rājaveja* Magila in favour of a Buddhist establishment.[6] Occasionally individual physicians rose to great prominence. Nāgārjuna, who lived for some time in a monastery near the capital of South Kosala during the reign of a Sātavāhana king, was a renowned physician. His fame as an eye specialist reached China where his *Yen-lun* or *Treatise*

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[1] Lüders' List, Nos. 984 and 1048 ; *Gāthāsaptaśatī*, III. 37.

[2] Cf. *Mbh.*, Vana., 124. 12 ; Udyoga., 38. 4 ; Śānti., 37. 29ff. ; *Manu*, IV. 211ff. ; X. 47 and 86-89 ; *Gaut.*, VII. 9ff.

[3] VI. 100.

[4] IV. 63.

[5] VI. 101. 43.

[6] Lüders' List, Nos. 1190-93.

on the Eye, *Lung-shu-p'u-sā-yao-fang* or *Nāgārjuna Bodhisattva's Prescriptions* and *Ho-hsiang-fa* were also known.[1] Some knowledge of pharmacology appears to have been attained by the physicians of this age since we read of the bitter medicines[2] administered to the diseased persons and of the *sañjīvanīsudhā* applied to the dying.[3] But the science of medicine was often mixed up with quackery and sorcery. Thus, it was not sufficient for Nāgārjuna to learn the qualities of herbs only, but he had also to acquire at the same time the knowledge of the secret influence of the stars, the science of alchemy and the arts of the magicians and exorcists.

Astrologers

Playing on the superstition and credulity of the common man thrived the astrologers whose business it was to prepare the horoscope of the new-born baby, to propitiate the evil star standing on the way of their clients, to interpret dreams, to forecast omens and even to advise the king how and when to attack the enemies. As observed by Sircar, "with the innumerable copies of printed almanacs, called *Pañjī*, *Pañjikā* or *Pañchāṅga* of various types in each of the numerous regional languages, available to the literate people in all parts of India, it is impossible in these days of advanced literacy to realise the great importance of the astrologer in Indian social life before the 19th century."[4] That the office of the astrologer was an institution recognised by the state during Hindu rule is proved by both literary and epigraphic evidence. The *Vishṇusmṛiti*[5] requires the king to depend on the astrologers while Bṛihaspati[6] says that a king without an astrologer mistakes his path like a blind man. Though the *Arthaśāstra*[7] is against too much reliance on astrology, the same work[8] mentions the *kārtāntika*

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[1] *JASB*, 1882, p. 119 ; Watters, *op. cit.*, Vol. II, p. 206.

[2] *GS*. IV. 17.

[3] *Ibid.*, IV. 36.

[4] *IHQ*, Vol. XXVIII, pp. 342ff.

[5] III. 75.

[6] II. 9.

[7] IX. 4.

[8] V. 3.

(foreteller), *naimittika* (reader of omens)[1] and *mauhūrtika* (astrologer) in the list of royal officers of the sixth class earning an annual salary of 1000 silver coins. There were, however, many to hold a cynical view about the way in which the fortune-tellers exploited the people. This attitude is best expressed in the following passage of the *Daśakumāracharita*: "In the eighth (watch of the night) the Purohita and others assembling relate to the king— 'Last night we saw a bad dream ; the planets are not favourably situated ; besides the omens are evil ; [to avert the threatened misfortunes] propitiatory rites should be performed. So let all the sacrificial implements be made of gold ; when this is done, the rites are prolific in their effect. Here are these Brāhmaṇas each like Brahman himself ; the benedictory rites performed by those lead to a blissful result ; they are in great poverty, have large families, are constantly engaged in devotional rites, are endowed with Brahmanical lustre and yet have not received any donations ; whatever is given to them will be rewarded by long life accompanied by heavenly happiness and good fortune' ; and thus having persuaded the king to confer rich donations upon them secretly enrich themselves through these".[2] The bitterness expressed through this passage against the court astrologer is not at all unjustified. The Sorkho plates[3] of Kalachuri Ratnadeva II show that more often than not the astrologers at the royal courts of ancient and medieval India were not competent astronomers.

Barber (Nāpita)

From the casual references to the barbers,[4] it is very difficult to get a clear picture of the calling. At best it may be said on the evidence of the Jātaka stories that the barbers used to do shaving, hair-dressing, cross-plaiting, shampooing etc.[5] The Vilavatti c.p. inscription[6] shows that the state imposed a tax on the income of the barbers.

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[1] Cf. a Gahadvala grant in *EI*, Vol. IX, p. 305.

[2] Cf. VIII ; Kale's trans. p. 146.

[3] *EI*, Vol. XXII, pp. 159ff.

[4] *GS*, III. 91.

[5] Cf. *Jāt.*, II. 5 ; *SRENI*, p. 461.

[6] *EI*, Vol. XXIV. p. 298.

Fisherman (*Dāsaka*)

Two inscriptions at Nasik[1] record the gift of a cave by the fisherman Mugūdāsa belonging to the lay community of Chetikas. Mugūdāsa undoubtedly represents the community that lived on fishing.[2] Manu reserves killing of fish to the Nishadas,[3] and makes the caste name corresponding to the fishing profession as *mārgava* or *dāsa* begotten by a *nishāda* on an *āyogava* woman.[4] The fishermen were master navigators able to pilot boats and large vessels on any difficult water-route. The *Periplus*[5] says that native fishermen were employed by the state to facilitate commercial traffic along the coast of Barygaza, where the gulf was narrow, full of rocks and with strong current, and the shore very low and marshy. The fishermen in the king's service, "stationed at the very entrance in well-manned large boats called *trappaga* and *cotymba*, go up the coast as far as Syrastrene, from which they pilot vessels to Barygaza. And they steer them straight from the mouth of the bay between the shoals with their crews."

There was some sort of communal organisation among the fishermen where the office of the chief was usually held hereditarily. Thus, we see that in a sea-port town (*paṭṭanagāma*) the son of the fisherman-chief after the death of his father steps into his shoes. He becomes blind, however, later, and takes to the service of the king, as he cannot any more follow the occupation of a fisherman, although he was 'the elder among the fishermen'[6]

Hunter (*Vyādha*)

The name *vyādha*[7] denotes a class of people who lived on hunting. They settled in the villages[1] apparently on the outskirts of forests where games were found in abundance. The main instruments for hunting were bows and arrows.[2] The skin of certain types of animals killed by them was much in demand. Sometimes, intending purchasers of the skin of the *pṛishata* deer visited the quarters of the *vyādhas*.[3] The hunters themselves also visited distant places to sell skins and leather-goods. Daṇḍin[4] speaks of a huntsman who came to the Vindhya forest after treading in tiger-skins and leather-bags at Māhishmatī.

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[1] *Ibid.*, Vol. VIII, p. 76f ; Lüders' List, No. 1129.

[2] Fishing is a very old profession the first epigraphic reference to which may be found in the inscriptions of Aśoka (cf. P.E.V. and the recently discovered Graeco-Aramic inscription near Kandahar, *EI*, Vol. XXXIV, p. 4).

[3] X. 48f.

[4] X. 34 ; *SRENI*, pp. 449f.

[5] Sec. 44.

[6] *Jāt.*, IV. 137.

[7] *GS*, II. 19-22, 73 ; VII. 1, 18, 29, 30 & 63.

Besides the *vyādhas*, there were professional hunters who were invested with the duty of preventing the deer and wild yaks from doing mischief to the crops by killing them and making roads and by-paths safe by destroying tigers and wolves.[5] We are not certain whether these professional hunters are the same as Megasthenes' third class 'who alone are allowed to kill animals'.[6]

Corn-Dealers (*Dhaṁñikas*), etc.

An inscription at Junnar[7] records that a guild of corn-dealers made the gift of a seven-celled cave and a cistern to a Buddhist establishment. This guild may be one of the many of such corporate bodies of grain dealers that grew up in our region. The *Arthaśāstṛa*[8] ordains that merchants trading in grain are to settle, along with those who deal in scents, garlands and liquids, in the eastern quarter of a town. In the *Śilappadikāram*,[9] we hear of the street of corn-chandlers "where merchants were seen going about here and there with balances, measuring-vessels known as *paṛai* and grain-measures (*ambaṇam*), filled with sacks of grain and black pepper irrespective of the seasons."

To supply the rural and urban population with their daily necessities emerged numerous types of business. A fresco painting at Ajanta[1] while depicting scenes from the life of Vessantara shows that the prince is passing through a market place, three shops of which are visible. The first of these is of a milkman[2] who has two pails of milk and a basin full of curds (?) before him. The second shop is that of an oilman who is occupied in pouring oil into a small cup with a circular span. The third shop is probably that of a grocer, who is weighing something in his scales. In one pan, circular weights, apparently of stone, may be noticed. On the right side of the grocer there are circular dishes and pots in which provisions are shown. Architecturally, these shops are small pillared rooms with curvilinear *chajjas* (cornices). Above the shops are the living-apartments of the shop-keepers.

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[1] *Ibid.*, VII. 63.

[2] *Ibid.*, VII. 1, 18 etc.

[3] *Ibid.*, VII. 29.

[4] *Daśa.*, ch. VIII ; Kale's trans. p. 156.

[5] Cf. *Ibid.*, p. 150.

[6] Strabo, XV. i. 41.

[7] Lüders' List, No. 1180.

[8] II. 4 ; See also Bose, 'Early Industrial Organisation in Northern India', *IHQ*, Vol. XX, p. 169.

[9] Canto XIV (V.R. Ramachandra Dikshitar ed. p. 208).

Betel-Leaf Seller

Indians are generally given to the habit of consuming betel-leaf. Varāhamihira in his *Bṛihatsaṁhitā*[3] says that, when betel-leaf is made fragrant by *kakkola*, areca-nut, clove and *jāti*, it makes one enjoy the pleasure of amorous intoxication. The place of the cultivation of betel-leaf is confined to the coastal districts of this sub-continent. Naturally, therefore, from very early times grew up along this coastal belt a flourishing business in betel-leaf. It appears that the growers or sellers of betel-leaf sometimes organised themselves into guilds, which used to receive public endowments and give regular annual returns on them.[4]

Musician And Dancer

Vātsyāyana[5] says that the womanfolk of the Mahārāshṭra country were proficient in the sixty-four arts. The culture of the different branches of fine arts was considered an indispensable part of princely education. In the Bannahalli grant,[6] a Kadamba king is described as an expert in the art of music (*gāndharva*).

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[1] Yazdani, *Ajanta Frescoes*, Part IV, Pl. XXIII.

[2] Cf. the reference to milkman in the *GS*, VII. 37.

[3] LXXVII. 37.

[4] Cf. *EI*, Vol. XXXV, Nagarjunakonda Ins., I, B, pp. 6f.

[5] VI. 5. 29.

[6] *EI*, Vol. VI, pp. 16ff.

Daṇḍin[1] says that, when king Rājavāhana was in exile in the Vindhya forest, the *kumāras* with the help of their respective teachers learned all arts including playing upon the lutes and other musical instruments, vocal music and poetics. The story of the *Mālavikāgnimitram*[2] gives an interesting account of the quarrel of two teachers, one of whom was engaged in imparting lessons in dance, drama and music to the queen and her associates, while the other was patronised by the king.

Besides these *upādhyāyas*[3] who were engaged in the teaching or fine-arts, there was a host of professional dancers and musicians regularly patronised by the kings and their wealthy subjects. We are told in the *Daśakumāracharita*[4] that a train of musicians and dancing girls skilled in various arts followed Chandrapālita, a minister's son of the Aśmaka king, to Vidarbha. Sculptures and paintings often depict court scenes where one can witness kings and their attendants being seated on beautifully carved couches and thrones enjoying music and dancing performed by women dancers of exquisite grace exhibiting their charms unhindered by an overabundance of clothing, their coiffures arranged in various shapes and decorated with flowers.[5]

Prostitute (*Gaṇikā*)

The prostitutes' profession probably not yet came to be regarded as the meanest of vocations. In fact the existence of erotic literature like the *Gāthāsaptaśatī*, which contains only seven hundred verses of the crores of such couplets,[6] suggests a society not very much obsessed with sex-puritanism. Here one could express without prejudice his sincere appreciation of a courtesan's love[7] or recommend to the king the enjoyment of beautiful damsels as it was the source of supreme felicity both in this and the next world.[8] That the courtesans were not treated with contempt even in later times is conclusively proved by a Chālukya inscription.[1] This undated epigraph from Mahakuta describes one Vināpoṭigal, a courtesan, with quaint candour, as king Vijayāditya's beloved mistress, and records her gifts to the deity, comprising a *pīṭha* (pedestal) set with rubies with a silver umbrella spread over it, and a field called Maṅgaḷuḷḷe measuring 800 units. The boldness with which the inscription refers to the said courtesan as a favourite of the reigning prince, to her performance of the sastraic rites like the *hiraṇyagarbha* and to the making of costly gifts to a religious establishment by the same does not permit us to conclude that the hataerae in general were regarded as outcastes in the contemporary society. There are instances of similar representation of harlots in inscriptions. A Telugu inscription from Velpuru in the Guntur District mentions Kasadī Suramādevī, concubine (*bhogastrī*) of the Kota chief Ketarāja, and her mother Amarasāni who was a harlot.[2] An inscription of the time of Rāshṭrakūṭa Dhruva records the donation of Bādi-poḍḍi described as the daughter of Govinda-poḍḍi who was a harlot of the temple of the queen Loka-mahādevī.[3] The Ratnagiri plates[4] register a grant by the Somavaṁśi Karṇa, the donee being his *Rāṇī* or queen Karpūraśrī. She has been described in the record as the daughter of a woman and grand-daughter of another woman. As suggested by Sircar,[5] the word *pautrī* in this context is used in the sense of 'the daughter's daughter'. The absence of any reference to Karpūraśrī's father and grand-father and her representation as the daughter and grand-daughter of females indicate that she was born of a harlot.

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[1] *Daśa*, Ch. I, Kale's trans., p. 14.

[2] Cf. Acts I and II.

[3] *GS*, V. 77.

[4] Ch. VIII. Kale's trans., p. 149.

[5] Cf. *JISOA*, Vol. VIII, p. 96; Yazdani, *op. cit.*, Part I, Pl. XIII; Barret, *Sculptures from Amaravati in the British Museum*, Pl. XXVII, No. 83; *Bul. Mad. Govt. Mus.* (NS), Vol. IV, 1942.

[6] Cf. *GS*, I. 3.

[7] *Ibid.*, II. 56.

[8] *Daśa*, Ch. VIII; Kale's trans., p. 150.

Daṇḍin[6] gives a detailed description of the manner in which a courtesan's mother trains her daughter for the profession. She is "to cultivate the beauty of her daughter from the very birth ; to nurture the body of her daughter by means of congenial diet, that will help the development of lustre, strength, complexion and intelligence and will keep the humours, the gastric fire and the vital fluids in harmony ; not to expose her very much from her fifth year of age to the view of even her father ; to perform on her birthday and on other auspicious days various religious rites accompanied with great festivities ; to train her in the erotic science in all its branches ; to initiate her carefully in the arts of dancing, singing, playing on musical instruments, acting, painting as well as confectionery, the art of preparing perfumes, wreathing flowers and also to instruct her thoroughly in reading and writing and to express herself with elegance and wit ; to teach her the barest outlines of grammar, logic and astrology ; she has to make her an adept in the art of earning livelihood, in sportive graces, and in games of chance and strife ; she also receives practical demonstration, at the hands of some friendly person, in certain secrets of erotic science ; she has to appear at public festivals, carefully decorated and well attended ; she has to attain perfection in the art of singing, as would suit particular occasions, at the hands of experts previously engaged ; she is to advertise herself through experts in various arts in different places ; she must be proclaimed through palmists and astrologers as being endowed with all the auspicious marks ; with the help of parasites, gay companions, jesters and the Jaina female mendicants, she has to get her beauty, behaviour, accomplishments, charms and affability introduced in the circles of the town's people." Thus was started the career of a harlot who lent her body to be enjoyed for a fee. The greed of money encouraged not too few a prostitute to exploit the weakness of the visitors. A courtesan says, "We get by various artifices what remains of the lovers after it has been expended by daily, occasional and love gifts . . . We rouse the liberality of one, who, though deep in love, is avaricious, by inciting him, through a deputy (or by quoting the case of the lover of a neighbouring courtesan)."[1] Hāla[2] also refers to the prostitutes attracted by whose glamour many people lost their character and their immense wealth. As an illustration the story of Vasupālita[3] may be cited here. The son of a rich merchant, he was caught in the snares of Kāmamañjarī, a girl of easy virtue. The girl at first exploited him to the fullest extent and, when he possessed nothing, he was driven out of his own mansion.

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[1] *IA*, Vol. X, p. 103 ; *EHD*, pp. 227, 235.

[2] *SII*, Vol. X, No. 249 ; also *EI*, Vol. XXXIII, p. 272.

[3] *IA*, Vol. XI, p. 125; *EI*, Vol. XXXIII, p. 272 (in the Kannada language which is also the language of the grant in question, the word *poṭi*, *poḍḍi* or *boḍḍi* means 'a harlot'.)

[4] *EI*, Vol. XXXIII, pp. 263ff.

[5] *Ibid*, p. 272.

[6] *Daśa*. ch. II ; Kale's trans., p. 48.

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[1] *Ibid.*, p. 49.

[2] *GS,* V. 74.

[3] *Daśa.,* Ch. II. Kale's trans. p. 54.

Painter

The fresco-paintings at Ajanta testify not only to the skill of the Indian artists in mural and miniature paintings but also to the knowledge of preparing permanent colour out of vegetable and mineral sources. This stage was achieved undoubtedly after an age-long specialisation and experience by a class of hereditary painters. The story-telling character of many of the stone engravings at Amaravati actually presupposes the existence of a class of folk-painters who used to tell stories by means of unrolling illustrated scrolls. The artists of Ajantā, however, seem to have been somewhat sophisticated and technically advanced compared to the scroll-painters. Some of these fresco-painters might have been members of the local monastic community ; but it is by no means certain that the Ajanta frescoes are the creation of the ascetics and recluses alone. Indeed, as observed by Piggott,[1] "The innumerable scenes of courtlife, the battles and shipwreck, the close acquaintance with the houses and manners of the nobles and not least the ladies with their richly jewelled parures and alluring graces— those things are not learnt nor imagined by ascetics in a lonely monastery. They are part of the experience of sophisticated artists who would paint an equally admirable series of murals in the palace of Pulakeśin representing the triumphs of the Chalukyan kings or in the *vihāra* of a rich monastery depicting the abnegation of the Founder of the Faith."

Prapāpālikās

From very early times it was considered a pious deed to make provision for the supply of water to the thirsty.[2] An inscription of A.D. 1369, which extols the merit accruing from the provision of water by the construction of a tank, quotes the following from Hemādri : "A shed for distributing water, a well and reservoir, a canal and a lotus tank ; the merit of (excavating) them is millions and millions (of times) higher in succession ; as the water of a tank serves to nurture both movable and immovable creation on (this) earth, even the lotus-seated (Brahman) is unable to recount the fruit of merit (attaching) to it."[1] Actual evidence of such benevolent activities may be traced in remoter periods also. The great Mauryan king Aśoka claims to have dug wells at every half a *krośa* for the enjoyment of men and beasts.[2] The cave inscriptions in the Deccan bristle with references to the gift of water-cisterns and wells. The Śaka chief Ṛishabhadatta boasts that he had erected shelters for gratuitous distribution of water on both banks of the Ibā, Parādā, Damana, Tāpī, Karabeṇā and Dāhanukā.[3] For distributing water to the travellers from these water-houses were *prapāpālikās.*[4] To inspect their working, royal officers were appointed. An Amaravati inscription[5] records the gift made by a superintendent of water-houses (*pāniyagharika*) of king Śivamaka-Sada.

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[1] S. Piggott, *Some Ancient Cities of India*, p. 54.
[2] Cf. *Vishṇusaṁhitā*, XIX. 1-2.

Public Entertainers

Often one could witness by the roadside the jugglers, street dancers, actors, magicians etc., displaying their skill. The Vilavatti inscription incidentally shows, while recording the transfer of the royal right of collecting taxes from the rope-jugglers or dancers (? *rajjupratihāra*),[6] mask-actors (*mukhadharakas*) and so on, that the state imposed professional taxes on the meagre income of these public entertainers. We may have an idea about the feats performed by these acrobats in the following account of Viśruta, one of Daṇḍin's ten princes.[1] "I put on the gay attire of a dancer . . . when it was sunset, I performed in various styles dancing and singing and imitated different voices, calculated to add to the knowledge of the multitude, and performed different athletic feats, such as jumping on hands, moving with the legs raised up, as well as moving like scorpion or leaping like a crocodile or darting like a fish ; also raising my leg up and contracting the other or pressing together the feet and dancing sideways. I then borrowed the daggers of the standers-by and fixing them all round my body, displayed various feats not easy to perform, such as the sweep of a hawk or the flight of an osprey."

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[1] *EI*, Vol. XIV, pp. 94ff ; *IC*, Vol. XII, p. 71.

[2] Cf. PE II and PE VII.

[3] *EI*, Vol. VIII, Nasik ins., No. 10, pp. 78ff.

[4] *GS*, II. 61.

[5] Lüders' List, No. 1279.

[6] N.P. Chakravarti, however, is not certain whether *rajju* in this inscription is to be taken separately or to be compounded with the preceding or succeeding word. The above interpretation, according to him, is not beyond doubt since *rajju* and *chorarajju* are found in the *AS* as fiscal terms, and *rajjuka* occurs as an official designation in the Mauryan and later inscriptions (*EI*, Vol. XXIV, p. 298, no. 5). D.C. Sircar takes *rajjupratihārāpanājīvika* in the sense of tax for maintaining surveyors (*rajju*) and gate-keepers or toll-collectors (*pratihāra*) and that from shop-keepers (*āpaṇājivika*), see *Ep. Gloss*, p. 274.

Gambler

Gambling in dice[2] was a favourite pastime and profession in the society. Even women took part in gambling. An Ajanta fresco[3] depicts some women in a royal palace as engaged in dice playing. The gambling house seems to have been a feature of every big town. A beautiful picture of the working of these gambling dens is given by a gambler who after entering such places associated himself with the game-masters.[4] He was, however, never satisfied with observing them who were skilled in the twenty-five sorts of games, 'knowing how to cog a die on the dice-cloth and the tricks of shifting a piece, to reply to any reflection on their play with vain and abundant abuses and to engage in affrays quite recklessly'. He also saw 'the transactions begun with the knowledge of argument, force and boldness, and bully the timid ; skill in making partisans and proffering great and small advantages, the different ways of betting, to divide the spoil with a liberal mind and their clamours almost consisting in indecent talk'. To a professional gambler, it was very difficult to check the temptation of gambling. In this connection, we may refer to a scene of the *Mṛichchhakaṭika*[5] in which a gambler is shown fleeing from the gambling house. He lost all the games and slipped away without paying ten *suvarṇas* due to the keeper of the gambling house. Chased by the said keeper and another gambler, he entered a deserted temple and impersonated the god himself. Immediately afterwards his pursuers entered the temple and when they saw the man representing the deity, one of them suggested that it was made of wood and the other, of stone. On this point they began to gamble. The man who was standing as the deity now began to be tormented with a strong desire to gamble. While trying to suppress his emotions he said, "Alas ! The moneyless man who hears the rattle of dice feels a sudden transport like that of a dethroned king who hears the drums beating the call to arms. No, I shall never play again. I am resolved, for it would be as well to throw myself from a summit of Meru as to grasp the dice. Yet their sound is as sweet as the song of the *kokila* !" But he could not resist his temptation for long. When the two persons were disputing as to whose turn it was to play, the man, being extremely excited, suddenly left his position and leaping forward shouted "Yes, yes ! It's my turn." Thus he was caught.

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[1] *Daśa*, Ch. VIII, Kale's trans. p. 158.

[2] *Daśa*, Ch. II, Kale's trans. p. 55.

[3] Yazḍani, *op. cit.*, Part II, pl. XXXV.

[4] *Daśa*, Ch. II, Kale's trans. p. 55.

[5] Act. II.

The state imposed taxes on the outturn of gambling.[1] Kauṭilya[2] says that the superintendent of gambling shall take not only 5% of the stakes won by every person and the hire payable for supplying dice and other accessories of dice play, but also the fee chargeable for supplying water and accommodation, besides the fees for licence.

Though dice playing was not restricted to a class or caste, it was indeed a game *par excellence* of the Kshatriyas. According to an established convention, a member of the ruling caste should not refuse a call to *dyūta* and duel.[3] Sometimes the members of the royal family engaged themselves in gambling staking their wealth, kingdom, wife, and even life. Yudhishṭhira's passion for *dyūta* and the devastation which it consequently brought to the Kuru race are too well known to be discussed here. Nala, the king of the Nishadhas, is said to have lost his property and realm to his younger brother in gambling, but

[1] *EI*, Vol. XXIV, p. 298.

[2] *AS*, III, 20.

[3] *Mbh*, Sabhā, 48.

recovered his lost fortune after acquiring a better knowledge of this play from king Ṛituparṇa.[1]

Slave and Labourer

The lowest stratum of the society was represented by the slaves and labourers. The *dāsas* were a wretched lot always facing the wrath of their masters.[2] We read in the Hirahadagalli plates[3] that prince Śivaskandavarman gave away four *addhikas* and two *kolikas* along with a plot of land to a certain Brāhmaṇa. Bühler translates *addhika* as 'a labourer receiving half the produce'. *Kolika*, according to him, corresponds to the Skt. *Kaulikāḥ* and may mean 'weavers'. But, as suggested by Sircar,[4] it is possible to think of the well-known tribe of the *Kolis* who were slaves. In the Ellore grant[5] of Sālaṅkāyana Devavarman, we read that a Brāhmaṇa was given a plot of land and also a house-site for himself and others for his *addhiya-manussas* ('men who receive half the crop'). These *addhiya-manussas* were evidently hired cultivators employed for the tillage of the donated land. In return for their labour, these agricultural labourers received half of the annual yield.[6] This fifty-fifty ratio between the

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[1] *Mbh.*, Vana, 61, 72, 77, 78.

[2] *GS*, I. 91. The mention of the fishermen as *dāsakas* (see above, p. 190) shows that the profession was not considered as very respectable in the society.

[3] *EI*, Vol. II, pp. 485f ; Lüders' List, No. 1200.

[4] *Suc. Sāt.*, p. 189.

[5] *EI*, Vol. IX, pp. 56ff.

[6] It is interesting to note that Lallanji Gopal (*Economic Life of Northern India*, p. 29) endeavours to discover in the Hirahadagalli and the Ellore grants the primitive stage of manorial tenure in India. In his opinion, these two records suggest that such men tilling land for half the crops were sometimes closely associated with the land granted and the grant was accompanied with a provision for these cultivators. But the very fact that these cultivators received half the crop seems very unusual. It is not unlikely that the regions, where these gift-lands were situated, suffered from a poor supply of agricultural labourers. As such cultivators were lured to work on these fields on an attractive term. They were also provided with house-site so that they would not face any accommodation problem. That these cultivators were not "closely associated with the land granted" is proved by the granting of house-site for them.

Gopal sees in the conventional statement in the land charters that the donees had the right to cultivate the gift-land or get it cultivated another

(*Continued on next page*)

landowner and the tiller does not fit in well with the sastraic injunction that offers only 1/10[1] or at best 1/3[2] of crops to the cultivator. The *Arthaśāstra*[3], however, falling in line with the epigraphic evidence, allows the croppers on the crown-land to retain half of the produce. The services of the labourers were requisitioned for several other purposes. In an inscription[4] indication is given to the reclamation of land for cultivation and habitation by clearing forest (*araṇya-karshaṇa*) with the help of servants (*preshya-kula*).

Besides the slave labourers and hired workers was a group of slaves who were not necessarily manual labourers. The *Periplus*[5] informs us that singing boys and beautiful maidens were brought into Barygaza from foreign countries for the kings and their harems respectively. It may be guessed that many of the female attendants shown in the sculptured panels and wall paintings as carrying fly whisk, umbrella, water-pots, garlands, mirrors, ornament-caskets, articles of toilet etc., for the kings and queens belonged to the category of 'beautiful damsels' of the *Periplus* and were purchased to do household works in the royal palace. The possibility of their existence in the houses of the wealthy persons can also not be ruled out.

Thief and Robber

Anti-social activities like burglary and robbery were not very

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support to his theory. "This right of sub-infeudation," according to him, "implied that of ejecting an actual tiller of the soil, which in some cases must have reduced the peasants to the status of tenants-at-will." But such statements really recognise the donee's right to cultivate the gift land under his personal supervision or through any other agency. No question of ejection of tillers from their land or reduction of the peasants to the status of tenants-at-will is involved in these statements. We have not a single instance of such ejection. As a matter of fact, when an inhabited land was granted the donee was specifically allowed to enjoy the state dues levied on its inhabitants and not their land. For a criticism of Gopal's view regarding the existence of feudal serfdom and manorial villages in India see *JOI*, Vol. *XVI*, pp. 166ff.

[1] *Nār.*, VI, 2.3.

[2] *Bṛih.*, XVI, 1-2.

[3] II. 24.

[4] *EI*, Vol. XXXVII, 293.

[5] Sec. 49.

uncommon. In the woods and forests resided barbarous tribes like the Kirātas of the Vindhya forest, who "used to harry the neighbouring country and seize the wealthy villagers with their women and children and having brought them to this forest put them into custody and take all their wealth with a pitiless heart."[1] Besides the gangsters, there were thieves[2] to steal away other's property under the cover of darkness. It is rather curious that the art of stealing and such practices were taught to the royal princes.[3] A thief, before starting his activity in any locality, made careful investigation about the inhabitants as regards their wealth, dealings and behaviour. Then, on a dark night, he went to the house of the victim being equipped with a sharp tong, a sham head, some magic powder, magic wick, a measuring thread, a wrench, a rope, a lamp-case and a beetle in a box. With the help of some of these appliances, he made in the wall of the house of his unfortunate target a hole of the size of the interstices in lattice-windows. Entering through it he took valuables and departed.[4] The fear of being robbed was universal and as such people tried to evade the intending burglars by depositing their wealth under the ground. This buried treasure was known as *nidhi*. That the adoption of this safety-measure was very popular is suggested by the numerous references to the *nidhikalasas* in the *Gāthāsaptaśatī*.[5] The surrender of the state's right to the individual donee in respect of the *nidhi* in many land grants also shows that the chance of the discovery of *nidhi* was present in every place. Indeed, the hoarded wealth being unearthed from time to time has enriched our knowledge of ancient Indian numismatics.

The state was aware of the criminal activities of the thieves and robbers. Officers were appointed to protect the urban and rural population from the activities of the pilferers. Ghoshal[6] thinks that a levy like the modern *chaukidari* tax was payable by the inhabitants for the maintenance of this staff. A more serious menace from the point of view of peace and security was offered by the gangsters. In the rural areas the *grāmaṇī* or the village-headman was responsible for protecting the villagers from their activities. The *Gāthāsaptaśatī*[1] alludes to the inroads of the dacoits in the villages and the consequent resistance offered by the *grāmaṇī* and his men. It was extremely humiliating to the village chief to hear that his people fled away before the attack of the dacoits.[2] The *grāmaṇī* was alive to the responsibility of his post. He, therefore, took particular care to train his son so that the latter could discharge the duty in the absence of his father.[3]

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[1] *Daśa.*, Ch. II, Kale's trans., p. 16.

[2] *GS*, II. 18 ; VI. 27.

[3] *Daśa.*, Ch. I, Kale's trans., p. 14.

[4] *Ibid.*, Ch. III, Kale's trans., p. 56. For a discussion on theft in ancient India see *Calcutta Police Journal*, Vol. I, pp. 5ff.

[5] *GS*, II. 25 ; IV. 18, 73 ; V. 23 ; VI. 7, 76.

[6] *HRS*, p. 211.

Pirates

Like the highway robbers on land, the pirates constituted a potential danger to the coastal shipping in the Arabian Sea and the Bay of Bengal. According to Pliny,[4] Greek or Egyptian vessels which traded with India carried companies of archers as the seas they traversed were greatly infested with pirates. Along the South Kathiawar, Cambay and Gujarat coasts, the pirates were chiefly the Kolis and to a less extent the Kharavas.[5] Ptolemy refers to a portion of the Western coast as the 'Pirate Coast' which extended roughly from Bombay to Goa.[6] The *Periplus*[7] also indicates that South Konkan and the Kannada speaking districts were nests of pirates. Here bands of pirates, formed into regularly organised communities, had established themselves in strongholds contiguous to the creeks and bays, which were numerous on the coast and afforded secure harbourage to their cruisers. Ptolemy[8] says that pirates occupied five ports, *viz.* Mandagara, Byzantion, Khersonesus, Armagara and Nitria and even two inland towns, *viz.*, Olokhaira and Mousoppalla. Ptolemy's Nitria may be Pliny's Nitrias, the stronghold of the pirates, who threatened the Roman merchants.[1] According to a tradition, the father of the well-known Red Chera destroyed *Kadambu* of the sea-coast— the piratical rendezvous of the tribe who became later known as the Kadambas— and the coast was freed from the pirates.[2] But the dread continued well into the 19th century, when the piratical occupation was destroyed by the British arms.

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[1] VII. 28.

[2] *GS*, VII. 31.

[3] *Ibid.*, VII. 32.

[4] *Nat. Hist.*, VI. 23.

[5] *JIH*, Vol. XXXIV, p. 319.

[6] S.N. Majumdar-Sastri, *op. cit.*, p. 45.

[7] Sec. 53.

[8] S.N. Majumdar-Sastri, *loc. cit.*; *Bomb. Gaz.*, Vol. I, pp. 1, 541; Vol. X, p. 192n.

Miscellaneous Callings

Among other callings mention may be made of wrestling, begging and ferrying. The *Gāthāsaptaśatī* refers to an old wrestler whose presence caused terror in the heart of his coward rivals.[3] There were ferrymen who after taking a fee from the passengers piloted his boat across the river. Ṛishabhadatta claims that he had established free ferries on the Ibā, Pārādā, Damana, Tāpī, Karabeṇā and Dāhanukā.[4] Begging was the last resort of anybody in his effort to maintain the bare existence. Towns and villages were never wanting in the beggars and tramps.[5] Speaking of a tramp, the *Tittira Jātaka*[6] says, "He has (as porter of the tradesmen) wandered in the Kaliṅga kingdom, he has engaged himself in trade stick in hand, he walks over the country road. With dancers he has wandered with hunters ; with sticks he has fought with the crowd. He has caught birds, he has measured (corn) with the *āḷhaka* measure, he has (in a dice-game, with regard to false players) removed the dice, he has transgressed the moral laws, he has staunched the blood of (the punished), his hands are burnt by taking hot food (during begging)." Here we have the picture of an Indian tramp and of the sphere in which his destiny unfolded itself : 'dancers, hunters, club-fighters, players . . . this is the society in which the adventurous period of his life is spent' and ultimately, 'after trying all possible occupations he earns his living by begging as a fraudulent ascetic'.[1] Pious people, however, established charitable institutions to help these poor souls. King Skandavarman of the Nala family is said to have made an endowment and directed that the proceeds of this endowment were to be utilised entirely for the free feeding of the Brāhmaṇas, especially of the ascetics, the poor and destitute, in a *satra* attached to the temple of the Supreme Bhagavat in the town of Pushkarī. The institution was permanently made tax-free and placed for protection under an officer.[2] The ascetics and mendicants, who represented another stratum of the society, did not differ very much from the professional beggars in procuring their daily bread. Inscriptions give numerous examples of private and state endowments both in cash and landed property made for their maintenance.

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[1] *Nat. Hist.* VI. 26.

[2] S.N. Majumdar-Sastri, *op. cit.*, p. 347.

[3] VII. 84.

[4] *EI*, Vol. VIII, Nasik inscription. No. 10.

[5] *GS*, II, 62.

[6] III. 541 (ed. Fausbøll).

Besides these professions and occupations, state services provided a large number of people. Serving in different categories there were, to name only a few *amātya*,[3] *mahāmātra*,[4] *senāpati*,[5] *mahāsenāpati*,[6] *senāgopa*,[7] *mahāraṭhika*,[8] *raṭhika*,[9] *mahattaras*,[10] *mahādaṇḍanāyaka*,[11] *mahābhojaka*,[12] *rahasyādhikṛita*,[13] *deśādhikṛita*,[14] *ārakshādhikṛita*,[15] *rajjuka*,[16] *māṇḍapika*,[17] *vyāpṛita*,[18] *āyukta*,[19] *karmāntika*,[20] *rājavaidya*,[21] *bhāṇḍāgārika*,[22]

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[1] Fick, *The Social Organisation in North East India in Buddha's Time*, p. 301.

[2] Podagadh inscription, *EI*, Vol. XXI, p. 153.

[3] Lüders' List, Nos. 994, 1053, 1105, 1124-26, 1141, 1174, 1186, 1200.

[4] *Ibid.*, No. 1144.

[5] *Ibid.*, No. 1200.

[6] *Ibid.*, No. 1124, 1146.

[7] *Ibid.*, No. 1266.

[8] *Ibid.*, Nos. 1079, 1088, 1100, 1116, 1122.

[9] *Ibid.*, Nos. 1200, 1345.

[10] *Ibid.*, No. 1340.

[11] *Ibid.*, No. 1328.

[12] *Ibid.*, Nos. 1021, 1037, 1045, 1052, 1054, 1058, 1111.

[13] *Ibid.*, No. 1200.

[14] *Loc. cit.*

[15] *Loc. cit.*

[16] *Ibid.*, No. 1195.

[17] *Ibid.*, No. 1200.

[18] *Ibid.*, Nos. 1205, 1328.

[19] *Ibid.*, No. 1327.

[20] *Ibid.*, No. 1137.

[21] *Ibid.*, No. 1200.

[22] *Ibid.*, Nos. 1190-93.

gaulmika,[1] *grāmaṇī,*[2] *lekhaka,*[3] *neyika,*[4] *muluḍa,*[5] *tūthika,*[6] *saṁcharaṁtaka,*[7] *pratihāra,*[8] *bhaṭamanushya*[9] etc.[10] In the *Sūrpāraka Jātaka,*[11] mention is made of a special officer in the royal court, *viz.*, *agghāpaṇikaṭṭhāna* or *agghakāraka*, whose work included, as it appears from two other Jātaka stories,[12] estimating the value of elephants, horses, precious stones, gold etc., and paying the owners of wares their proper price. The Bodhisattva, who, according to the *Sūrpāraka Jātaka,* was born in the family of a fisherman, is said to have been given this post in spite of his blindness. "He determines as valuer the things which are most heavily taxed. Thus he knows by merely touching with hand that a carriage which should serve the king as a State carriage is built with the wood of a perforated tree or that a costly garment is eaten by mice at one place ; he receives, however, from the king only eight *kahāpaṇas* for every valuation. Not willing to accept a payment which according to him is suitable for a barber (*imassa dāyo nahāpitadāyo*, IV. 138), he leaves the service of the king and returns to his fisherman's village."[13] An Udayagiri cave inscription[14] refers to a royal official called *akhadaṁsa* (Skt. *akshadarśa*). Recently an attempt has been made to interpret the expression as supervisor of gambling.[15] But Lüders' translation of the term as "town judge" evidently on the basis of the *Amarakosha*[16] seems to be correct. Raychaudhuri[17] refers to the *Vinayapiṭaka*, III. 47 where the *akkhadassas* occur as a class of *mahāmāttas*, like their prototypes in the time of Aśoka. Raychaudhuri observes, "In later ages the *Akshadarśa* might have revenue functions. Cf. Kshīra's comment on the passage from the *Amarakosha* referred to above. The duties of the *Akshapaṭalikas* of the Gupta period may be mentioned in this connection."

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[1] *Ibid.*, No. 1141.
[2] *Ibid.*, No. 1333.
[3] *Ibid.*, Nos. 1037, 1045, 1148-49, 1291.
[4] *Ibid.*, No. 1200.
[5] *Ibid.*, No. 1194.
[6] *Ibid.*, No. 1200.
[7] *Loc. cit.*
[8] *Ibid.*, No. 1126.
[9] *Ibid.*, No. 1200.
[10] See *AL.* Vol. XXIX, pp. 41ff ; *PHAI*, pp. 520ff.
[11] IV. 463.
[12] I. 124 and 126.
[13] Fick, *op. cit.*, p. 289.
[14] Lüders' List, No. 1351.
[15] *Our Heritage*, Vol. XIV, p. 48.
[16] II. VIII, 1, 5.
[17] *PHAI*, p. 520n.

12

Organisation of Industry and Trade

As in other ancient and medieval civilisations, trade and industrial guilds (*śreṇī*) were a feature of Indian economic life since very early times. Families pursuing certain branches of craft or industry and living in particular areas or streets of a town and sometimes forming the whole village population are frequently alluded to in the Jātakas. There was also the institution of the *jeṭṭhaka* (alderman) among the artisans. According to Fick,[1] three conditions, *viz.*, the heredity of profession, localisation of different branches of industry and the institution of the *jeṭṭhaka*, indicate clearly the existence of an organisation of handicraft which can be compared favourably with the guilds of the Middle Ages in Europe. This assertion is fully corroborated by epigraphic evidence and the later law-books.

The conventional figure for the trade and industrial guilds in the Jātakas is eighteen,[2] but only four are mentioned by name.[3] In this respect, some inscriptions found in different places of the Deccan throw welcome light. According to the evidence of two Nasik inscriptions,[4] there flourished at Govardhana near the Nasik caves the guilds of the weavers (*kolikanikāya*), potters (*kularikas*), hydraulic engine-makers (*odayantrikas*) and oil-millers (*tilapishakas*). Similarly, near about Junnar, the *vasakaras* (bamboo-workers), *kasakaras* (braziers) and *dhannikas*

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[1] *The Social Organisation in North-East India*, p. 284.

[2] T.W. Rhys Davids, *Buddhist India*, p. 90.

[3] *Jāt.*, VI. 427.

[4] Lüders' List, Nos. 1133 and 1137.

(corn-dealer) had their respective guilds.[1] An inscription[2] from the latter place refers to a guild at Konachika without giving any particulars about it. There must have been many more guilds, as suggested by Bhandarkar,[3] not only near about Nasik or Junnar, but also in other district towns. We may refer in this connection to a recently published Nagarjunakonda inscription,[4] indicating the existence of such organisations in Andhra Pradesh. It appears from the partially decipherable writing in lines 4-5 of the said inscription that there were no less than four different guilds at or in the neighbourhood of the ancient capital of the Īkshvākus. Among these guilds, the names of two can be satisfactorily read. They are called *panika-seni* and *puvika-seni*. According to Sircar,[5] the first of these may be Skt. *pārṇika-śreṇī*, *i.e.*, a guild of the sellers or growers of leaves (betel-leaves), while the second is a guild of confectioners. Epigraphic references to the guilds are few ; but their evidence indicates that the Deccan was studded with corporate bodies of the artisans of every description.

The injunctions in the law-books suggest that, shortly after the Christian era, the guild organisation developed into a highly important factor in state politics. *Śreṇīdharma* or the rules and regulations of the guilds had the force of law. These have been put on the same level with regional, caste and family customs.[6] According to Manu[7] and Yājñavalkya,[8] the violation of an agreement entered into by a member with the corporation to which he belongs is punishable with confiscation of property and banishment. A similar punishment is also prescribed for the theft of corporate property.[9] Nārada[10] says that those who cause dissension among the members of a corporation shall be severely treated. In order to carry on these injunctions, state-aid was essential. The lawyer, therefore, advocated that the king should look after the proper maintenance of the rules of the guild and other corporations.[1] The state policy, as dictated by the Dharmasūtras, to guarantee its successful existence by affording all timely assistance unquestionably enhanced the prestige and status of the guild organisation, and helped it to command confidence of the public. This can be seen in the practice among the people both high and low to entrust cash and property endowments to these guilds which often functioned more or less like modern banks. Inscriptions show that the guilds received deposits of public money on the condition of paying regular interest on them on a permanent basis. A Nagarjunakonda inscription[2] refers to hundred *dināris* being deposited in four different guilds, seventy in one of them and ten in each one of the others. In connection with the investment reference is made to the interest accruing to it month by month (*akhayanīvī cha katāṇa masanumasikasa vadhisā* = Skt. *akshyanivīṁ cha kṛitvā māsānumāsikyāḥ vṛiddhyāḥ*). Investment of an endowment of money by Vishṇudattā, a Śaka lady, with three guilds is likewise mentioned in a Nasik inscription.[3] Another epigraph[4] from Junnar also speaks of an investment of money with two guilds. Besides the commoners, princes also utilised the banking facilities offered by these guilds. Thus, the Śaka chief Ṛishabhadatta is stated in an inscription to have invested 2000 and 1000 *kārshāpaṇas* respectively in two weavers' guilds at Govardhana.[5] One guild agreed to pay an interest of 12% and the other 9% per annum. The rate of interest thus could vary not only from place to place but also from guild to guild even though these were situated in the same place. The duty of the guilds was not always confined to the payment of interest. Besides cash money sometimes properties were placed at the disposal of the guilds. On the income accruing from such properties the guilds paid an interest. An inscription at Junnar[6] records the investment of two plots of land with the guild at Konachika by one Āḍuthuma.

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[1] *Ibid.*, Nos. 1165 and 1180.
[2] *Ibid.*, No. 1162.
[3] *IA*, Vol. XLVIII, p. 82.
[4] *EI*, Vol. XXXV, pp. 4ff.
[5] *Ibid.*, p. 5.
[6] *Manu*, VIII. 41 ; *Yājña.*, I. 361.
[7] *Manu*, VIII. 219-20.
[8] *Yājña.*, II. 187.
[9] *Ibid.*, II. 187 ; *Vishṇu*. V. 168.
[10] *Nār.*, X. 6.

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[1] *Nār.*, X. 2-3.
[2] *EI*, Vol. XXXV, pp. 4ff.
[3] Lüders' List, No. 1137.
[4] *Ibid.*, No. 1165.
[5] *EI*, Vol. VIII, pp. 82ff. Nasik inscription, No. 12.
[6] Lüders' List, No. 1162.

The inscriptions quoted above prove that the guilds in our period received deposits of public money and property and paid interest on them regularly. Although the object of the investments referred to in the extant epigraphs was in every case either religious or charitable, it does not preclude the possibility of the investments of secular character also. Indeed the habit of investing money for religious and charitable purposes may be regarded as inspired by the common practice of depositing money, etc. in the guilds for safety and interest. The guilds, extending banking facilities to the public throughout the country, were evidently well organised, which was an inducement to the public to entrust large sums of money with them. Majumdar[1] rightly observed : "The guilds must have been of long standing and their operations characterised by honesty and fair dealing ; for otherwise men would scarcely have made perpetual endowments." That the members of the guilds were collectively responsible for the investments made with them has been clearly borne out by a late inscription[2] saying, "We all the following shepherds of this village (who) had received 90 ewes of this temple in order to supply ghee for burning one perpetual lamp. We shall cause the shepherd, *e.g.*, to supply daily one perpetual lamp, one *alākku* of ghee . . . If he dies, absconds or gets into prison, fetters (or) chains, we all these aforesaid persons are bound to supply ghee for burning the holy lamp as long as the sun and moon endure." Moreover, from the concluding portion of Ṛishabhadatta's inscription it may appear that the guilds were responsible to the corporations of the town for the due discharge of their duties as trustees of public money. The said inscription tells us that the Śaka prince after investing his sums in the two guilds of Govardhana, had his charities proclaimed in the town assembly (*nigamasabhā*) and registered at the record office according to custom.

Besides their professional business and function as bank, the activity of the guilds was also extended to a number of public utility services. Though a full list of such works is not preserved in the inscriptions, some of them are preferred to in the Dharmaśāstras. These included the construction of an assembly house, of a shed for (accommodating travellers with) water, a temple, a pool and a garden, and assistance to the poor to perform *saṁaskāras* or sacrificial acts enjoined by the sacred texts.[1] The Junnar inscription,[2] which records the excavation of a seven-celled (*satagabha*) cave and construction of a cistern (*poḍhī*) by an association of corn-dealers, stands as a lone example of this aspect of the guild activity.

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[1] *Corporate Life in Ancient India*, pp. 37-8.

[2] *SII*, Vol. II, p. 251 ; also Buch, *Economic Life in Ancient India*, p. 389. This sense of joint responsibility is also reflected in the statement of Bṛihaspati (XIV. 5) that whatever property one partner may give or lend, is taken to be authorised by many, or whatever contract he may cause to be executed, all that is considered as having been done by all.

While some idea about the manifold activities of the guilds may be had from the epigraphs, the paucity of materials leaves us in the dark about their constitution and the manner in which they conducted their own professional business. It may, however, be conjectured that in these respects the guilds generally followed the prescription of the law-givers. According to the Dharmaśāstras, some honest, virtuous, able and self-controlled men should be appointed as the executive officers (*kārya-chintaka* corresponding to the *jeṭṭhaka* of Pali literature and the *mukhya* of the *Arthaśāstra*) of such corporations.[3] Aparārka[4] quoted Bṛihaspati to show that these officers having executive authority over the members of the guilds could punish anyone who disobeyed their decision. The laws and usages of the guild, however, were also binding on these officers and, if any such officer violated them while discharging his duty or if there was conflict between them and the members of the guild the king had to step in and make both parties conform to the established usage.[5] Thus, an effective check was put on the way of these officers becoming autocratic. The canonical literature enjoins that everything acquired by a man, while engaged in the business of the guild, must be paid to the guild itself and anyone, failing to do this of his own accord, will have to pay a fine amounting to eleven times the value of the articles.[6] Again, the loss, expenses and profit incurred by a corporation in any transaction are to be equally shared by all the members of the corporation.[1] The obligation to follow the custom of one's own *śreṇī* is invested with a high moral sanction and no amount of expiation is considered enough to remove the sin of a member violating the *śreṇīdharma*[2].

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[1] R.C. Majumdar, *op. cit.*, p. 17.

[2] Lüders' List, No. 1180.

[3] *Bṛih.*, XVII. 9 ; *Yājña.*, II. 194.

[4] Aparārka's commentary on the *Yājñavalkyasmṛiti* (Anandasrama Sanskrit Series), p. 794.

[5] *Bṛi.*, XVII. 19-20.

[6] *Yājña.* II. 190.

While dealing with the guilds a word should be said about the *bhāṇḍāgārikas* mentioned in a Nasik inscription.[3] It seems that the superintendent of the king's store houses not only occupied an important position in the court, but was also related with the guild activities within the state. This is evident from a passage in the *Nyagrodha Jātaka* where Pottika, the tailor's son, has been quoted as saying to his friends that on the next day, one of them would be king, another *senāpati* and he himself *bhaṇḍāgārika*, and from the fact that the king made Pottika, on the latter's refusal to accept the post of *senāpati*, a superintendent of stores, an office "worthy of the regard of all guilds" (*sabbaseṇīnaṁ vicharaṇāraham bhaṇḍāgārikatthāham.*)[4] Unfortunately, the relation in which the *bhāṇḍāgārikas* stood with the guilds is not at all clear.

It may be surmised that like the artisans and dealers of various articles, the traders also had their respective organisations. In the Vanaparvan of the *Mahābhārata*,[5] reference is made to a great *sārtha* or a group of traders going through the Vindhya forest. This group was evidently an organisation of 'hereditary families pursuing certain branch of trade' since it was composed of merchants, their sons, relatives and friends. Further, mention of one *Sūchi* as the caravan-leader testifies to the compactness of this party. For overseas trade also the merchants sometimes organised themselves. Several Jātaka stories refer to such organisations of the sea-going merchants. Thus, we read in the *Sūrpāraka Jātaka*[6] that some merchants (near about 700 in number) got a ship ready, appointed a wise and skilful skipper and sailed upon the high seas. On their return home they divided among them the treasure that was gained. It is not clear whether these overseas trading organisations were really mercantile companies or temporary associations formed for a particular venture. At any rate, in the two instances cited above, may be found distinct traces of professional unions within the trading communities. According to Foulkes,[1] trade and commerce along the land and sea-routes were usually in the hands of companies of merchants of whom one was the recognised head. Each partner appears to have contributed a portion of the capital to fit out a ship.[2] Punna, who was a merchant of the Sūrpāraka region, is said to have traded with northern Kosala[3] in partnership with his brother Chula-Punna.[4] When Punna embraced the ascetic life upon his conversion, his brother continued to carry on the family or guild occupation both by sea and land. One occasion is mentioned on which Chula-Punna undertook a distant sea-voyage in the company of three hundred associate-merchants,[5] whose common activities in the incidents of the voyage point to a community of interests in the transaction.

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[1] *Nār.*, VI. 3.

[2] *Mbh.*, Śānti, XXXVI. 19.

[3] Lüders' List, No. 1141.

[4] *Jāt.*, IV. 43 ; Fick, *op. cit.*, p. 155.

[5] LXXIV-LXXV.

[6] *Jāt.*, IV. 463.

When the mercantile organisations in Europe and China represented two extreme conditions one enjoying complete autonomy and state-patronage and the other remaining constantly at the mercy of the State, in South India they stood in the midway.[6] Compared to China the merchants of South India enjoyed more freedom, had greater scope for initiative, and had a better capacity for voluntary organisation. They were also not so much at the mercy of government officials. Moreover, as we have seen above, they exercised a great deal of autonomy in the regulation of their own affairs. Hardly the state interfered in their affairs. At the same time, the merchants were unfamiliar with that type of state backing which helped many European traders to discover new lands and establish new colonies. "Neither the merchants nor the state in South India had any idea of the possibilities of economic imperialism. Trade to them was an end in itself ; they were willing to carry on trade if conditions were favourable ; it never occurred to them that foreign lands may be compelled to buy and sell at the point of bayonet."[1]

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[1] *IA,* Vol. XVI, p. 50.

[2] Bigandet, *Life of Gaudama*, p. 415.

[3] Hardy, *Manual of Buddhism*, pp. 56, 259.

[4] *Ibid.*, p. 259.

[5] *Ibid.*, pp. 57, 260.

[6] "The great chartered companies of Europe had monopoly rights and state backing ; they sinned against the light of free trade no less than the Chinese guilds, but they stood for the self-organisation and autonomy of the merchant class, not the mere rapacity of government officials. In China the merchant was powerless against officialdom ; politically he was nothing ; there was no tradition of city-state commercialism to teach him his potential strength. In Europe the bourgeois was rising to be master of the state ; in China he was but the servile agent of the mandarins." Hudson, *Europe and China*, p. 265, quoted by K.A. Nilakanta Sastri, *The Cholas*, pp. 597f.

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[1] Nilakanta Sastri, *op. cit.*, p. 598.

13

Trade and Commerce

DESPITE disturbed political condition and frequent changes of ruling families, trade and commerce in India seem to have flourished without much interruption. The valuable gifts[1] made by the merchants (*Vaṇik*), their wives and their families in favour of the religious establishments would have been impossible had the trading communities not been wealthy. The Jātaka stories contain numerous references to the merchants conducting trade and commerce. The inscriptions[2] from various sites of the Deccan record the donations made by a class of people called *śreshṭhin*. In the later Pali texts, the *seṭṭhis* appear as respectable tradesmen enjoying a special position of honour among the members of their profession.[3] Another class of traders, referrred to in the inscriptions[4] as *sārthavāha*, carried on trade with distant lands. The danger on the way inspired them to travel in groups under the leadership of an experienced *sārthavāha*. The great caravan met by Nala's wife on its way to the Chedi country was such a group of merchants and their relatives.[5] Another such caravan accompanying Mālavikā is stated to have moved from Vidarbha to Vidiśā.[6] Contemporary literature also refers to the company of sea-faring merchants sailing in different directions in search of wealth.

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[1] Lüders' List, Nos. 987, 1198, 1213-14, 1229-30, 1239, 1278, 1281, 1285 & 1287.

[2] *Ibid.*, Nos. 1056, 1063-64, 1073, 1075, 1087, 1109 and 1261.

[3] R. Fick, *The Social Organisation in North-East India*, p. 258.

[4] Lüders' List, Nos. 1062, 1065-66.

[5] *Mbh.*, Vana. 64.

[6] *Mālavikāgnimitra*, V. 83.

Overland Trade Routes

The mention of the benefactions of persons residing at Sūrpāraka, Vaijayantī and Dhānyakaṭaka in the inscriptions at Karle,[1] of those of Kalyāṇā, Nāsika, Sūrpāraka and Dhānyakaṭaka at Kanheri,[2] of Bhṛigukachchha and Kālyaṇa at Junnar,[3] of Nāsika at Bedsa,[4] of Kaṇṭakasola at Amaravati[5] and Ghantasala,[6] and so forth shows that already in the beginning of the Christian era there was a network of roads connecting all the important cities of the Deccan. That communication between the north and the south was also tolerably good may be inferred from the inscriptions recording the gifts of a person of Dattāmitrī[7] at Nasik and of the inhabitants of Karahākaṭa[8] and Nāsika[9] at Barhut. The presence at Nagarjunakonda of persons belonging to various localities like Sañjayapura, Avanti and Vanavāsa[10] indicates the existence of some sort of communication which enabled people to negotiate at differant places. In a Jātaka story,[11] we hear of Bodhisattva travelling from Takshaśīlā to the Andhra country and from there to Vārāṇasī. In another Jātaka story,[12] Bodhisattva is stated to have come along with his five hundred followers from the Himalayas to Bhṛigukachchha. From these circumstantial evidences about the existence of a well developed communication system between the different parts of the south and north we come to the categorical statement of Kauṭilya referring to the trade routes leading to Dākshiṇātya. For the guidance of the travellers, he observes, "of routes leading to the south, either that trade-route which traverses a large number of mines, which is frequented by people, and which is less expensive or troublesome, or that route by taking which plenty of merchandise of various kinds can be obtained is better."[1] While roaming in the Vindhya forest as an exile, the Nishadha king Nala witnessed a number of roads proceeding towards the south across the Ṛiksha mountain. One of these roads went in the direction of Vidarbha and another in that of south Kosala.[2]

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[1] Lüders' List, Nos. 1087, 1092-93, 1095-97 ; *EI*, Vol. XVIII, p. 326 ; Vol. XXIV, p. 282.

[2] Lüders' List, Nos. 985-86, 988, 995, 998, 1000, 1001, 1005, 1013, 1014, 1020, 1024.

[3] *Ibid.*, Nos. 1169, 1177 and 1179.

[4] *Ibid.*, No. 1109.

[5] *Ibid.*, No. 1303.

[6] *EI*, Vol. XXVII, p. 3.

[7] Lüders' List, No. 1140.

[8] *Ibid.*, Nos. 705, 763, 767, 809 & 891.

[9] *Ibid.*, No. 799.

[10] *EI*, Vol. XXXIV, pp. 197ff.

[11] *Jāt.*, 1, 80.

[12] *Jāt.*, II. 213.

An interesting account of these routes, which served as connecting links between the north and the south, may be found in the early Buddhist literature.[3] The Prologue of Book V of the *Suttanipāta* represents Dakshiṇāpatha as a great trade-route, the Southern High Way, which was followed by the Brāhmaṇa ascetic Bāvari and his disciples. The poet sums up in three verses (1011-1013) the steps in their route : "Patiṭṭhāna of Mulaka (wrongly called Alaka in the text), then the city of Māhissatī ; also Ujjenī and Gonaddha ; Vedisā ; Vana-savhaya ; Kosambī ; and also Sāketa and the city of Sāvatthi, Setavya, Kapilavatthu ; and the city of Kusīnārā ; and Pāvā ; Bhoganagara ; the Magadhan city of Vesālī and the Pāsānaka-chetiya."[4] From this passage it appears that the great southwest-northeast trunk road starting from Patiṭṭhāna (Paithan) led to the north across the Vindhya range to reach Māhishmatī and Ujjayinī[5] at which point it turned towards the north-east to pass

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[1] *AS*, VII. 12.

[2] *esha panthā Vidharbhānām asau gachchhati Kosalān*, *Mbh.*, Vana. 61, 23.

[3] See Rev. Thomas Foulkes, 'The Dakhan in the time of Gautama Buddha,' *IA*, Vol. XVI, p. 49.

[4] *Aṭṭhakassa Patiṭṭhānāṁ purīmāhissatiṁ tadā| Ujjeniñcha pi Gonaddhaṁ Vedisaṁ Vanasavyayam ||Kosambiñcha pi Sāketaṁ Sāvatthim cha puruttamam|Setavyaṁ Kapilavatthuṁ Kusināraṁ cha mandiram || Pāvaṁ cha Bhoganagaraṁ Vesāliṁ Māgadhaṁ puram | Pāsānaka chetiyaṁ cha ramanīyaṁ manoramam || Khuddakanikāya* (Nalanda, Devanagari Pali Series), Vol. I, p. 422, *ll.* 36ff. ; see also *SBE*, Vol. X (Part 2), p. 184f.

[5] The route from Ujjain, after crossing the Narmadā and proceeding beside modern Burhanpur, came to the ancient town of Bahal (East Khandesh) from where the caravans either went south to Pratishṭhāna, or west to Nasik. Those that went to Pratishṭhāna passed beside Aurangabad (may be the Rājatalāka or Rājataḍāga of some inscriptions, see *JBBRAS*, Vol. VI, p. 3 and Lüders' List, No. 988), which has Buddhist caves. The identification of the ancient Bhogavardhana (Lüders' List, Nos. 264, 266,

(*Continued on next page*)

through Vidiśā and Vana-Śrāvastī; proceeding further in the same direction across the Yamunā it came to Kauśāmbī where it took a turn towards the north and reached Sāketa and then extended to Śrāvastī ; an easterly move with an inclination towards the south led it to Kapilāvastu *via* Setavya ; southward from Kapilāvastu the road proceeded to Vaiśālī by way of Kuśīnagara, Pāvā and Bhoganagara. The road extended further south across the Ganges to Pāṭalīgrāma *via* Koṭigrāma and then passed through Nalanda to Rājagṛiha and probably to Gaya.[1] A part of this trunk road was probably covered by the great road between Ayodhyā (Sāketa) and the Ganges *en route* the Daṇḍaka forest described in the Rāmāyaṇa.[2]

A number of ancillary roads branched off in different directions from this main route. One of these extended towards Sūrpāraka on the western coast. Punna and his merchant companies in Sūrpāraka ordinarily used this route for going to Ayodhyā.[3] Another road branched off towards Mysore. The Jaina teacher Śrutakevalin who went to Sravana Belgola from Pāṭalīputra in the third century B. C. apparently followed this route.[4] The Jaina tradition, recorded in the *Rājāvalikathe*,[5] avers that, when a great twelve years' famine occurred, Chandragupta Maurya abdicated in favour of his men and accompanied by Bhadrabāhu, the last of the saints called Śrutakevalins, retired to Sravana Belgola in Mysore.[6] Two inscriptions on the north bank of the Kāvērī near Seringapatam, assignable to about 900 A. D., describe the summit of the Kalbappu Hill, *i.e.*, the Chandragiri, as marked by the footprints of Bhadrabāhu and Chandragupta-munipati.[7]

(*Continued from previous page*)
295, 373 and 572) with Bhokardan (Dist. Aurangabad), which lies halfway between Ajanta and Aurangabad and where an ancient habitation-site has been discovered, supplies a link in this route. See *Anct. Ind.*, No. 15 (1959), p. 69.

[1] *Dīgha.*, II. 3ff. ; *SRENI*, p. 287.

[2] II. 80 ; *SRENI*, p. 287.

[3] Hardy, *Manual of Buddhism*, p. 259 ; *IA*, Vol. XVI, p. 49.

[4] D. R. Shende, 'Routes between Aryavarta and Dakshinapatha,' *PIHC*, 1943, p. 137.

[5] Fleet, 'Bhadrabahu, Chandragupta, and Sravana-Belgola,' *IA*, Vol. XXI, p. 157.

[6] Smith, *The Early History of India*, 1924, p. 154.

[7] *PIHC*, p. 295 ; also Rice, *Mysore and Coorg from Inscriptions*, pp. 3-4.

Of all the branches originating from the N.E.S.W. road system, by far the most important was the one that went from Ujjayinī to the famous port of Bhṛigukachchha. The minstrel Sagga who, according to the *Sussondi Jātaka*,[1] travelled from Vārāṇasī to Bhṛigukachchha, apparently followed this trunk road. Connecting the most important sea-port on the western coast with the inland marts, this route was very important to the traders engaged in export-import business. The *Periplus* informs us that from Ozene "are brought down all things needed for the welfare of the country about Barygaza and many things for our trade, agate and carnelian, Indian muslin, and mallow cloth, and much ordinary cloth."[2] Through another route coming from Minnagara, the metropolis of "Scythia" much cotton cloth was brought down to Barygaza for export to the western countries.[3] In the south, this port was linked by means of cart-tracks with Pratishṭhāna and Tagara, which themselves were connected with other routes leading eastwards to the Kṛishṇā-Godāvarī delta. The *Periplus* says that Paethana and Tagara lay respectively about twenty days' journey south and ten days' journey east from Barygaza. "There are brought down to Barygaza from these places by wagons and through great tracts without roads (because of hills) from Paethana carnelian in great quantity and from Tagara much common cloth, all kinds of muslin and mallow cloth and other merchandise brought there locally from the regions along the sea-coast (Eastern Coast)."[4] Fleet observes, "A study of the maps has shown me the former existence of an early trading route, of which well marked traces still remain from the east coast through Golconda or Hyderabad, Ter and Paithan to Broach."[5]

Another road system connected the Caspapyrene (Kashmir), Paropanisene (sub-Hindukush) and Cabolitic (Kabul) countries by way of Poclais (Pushkalāvatī) with Barygaza. This road was used for bringing spikenard from those places to Barygaza.[6] At

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[1] III. 360.

[2] Sec. 48.

[3] *The Periplus*, Sec. 41.

[4] *The Periplus*, Sec. 51.

[5] *JRAS*, 1901, p. 598.

[6] *Ibid.*, Sec. 47 and 48.

Poclais the road joined with the great East Asian trade route which, starting from the Chinese province of Honan or thereabouts, converged upon the valley of the Hwang Ho, and then proceeded by alternative courses to Kashgar and Tushkurgan on the flank of the Pamirs and so by the Oxus valley to Bactria. At Bactria a branch directed westwards by way of Rhagae (Tehran) to Seleucia or Antioch. Another branch turned sharply south-eastwards to the Kabul river and India through clefts in the Hindukush, thus going round the more formidable mountain-barriers further east. Passing a number of trade-route cities it ultimately reached Pushkalāvatī which was linked directly with Barygaza.[1] When in the 1st century A.D. the Parthian wars much obstructed traffic between China and the West, this China-India route was used for carrying merchandise to Europe. The *Periplus*[2] refers to the raw silk, silk yarn and silk cloth which were brought from China on foot through Bactria to Barygaza apparently for their export to the Western world.

The kingdoms which fell on the way of Raghu's victorious march suggests the existence of a road running from north-east to south-west along the coast and then proceeding north-westward to Persia. In the 4th canto of the *Raghuvaṁśa*, it is stated that Raghu, starting from Ayodhyā, went through Suhma, Vaṅga, Utkala and then entered Kaliṅga. From there he marched southwards along the coast, crossed the Kāverī, swooped over the Malaya region, encountered the Pāṇḍyas and defeated them. Then he crossed the Western Ghāṭs (Sahya) through the Palghat gap between the Malaya (Cardamom Hills) and the Dardūra mountains (Nilgiri Hills). The armies of Raghu thereafter moved towards the Western coast to conquer Aparānta. After subjugating it they reached trikūṭa (a hill to the west of Nasik). From here Raghu proceeded towards Persia. Kalidāsa says that in order to reach Persia, Raghu preferred the land-route (*sthalavartman*).[3] This statement implies that there was also a sea-route to reach Persia. The Chinese pilgrim Hiuen Tsang supplements our knowledge about this east-south-west route. We are told that, from Karṇasuvarṇa

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[1] Wheeler, *Rome Beyond the Imperial Frontier,* pp. 156f. ; for an elaborate discussion on the subject, see Schoff, *op. cit.*, pp. 268ff.

[2] Sec. 64.

[3] *Raghu.*, IV. 60 ; see also B.S. Upadhyaya, *India in Kalidasa*, pp. 262ff.

(Tāmralipta according to the *Life*), Hiuen Tsang travelled south-west above 700 *li* and came to the Oḍra country ; from there he travelled south-west for over 1200 *li* to the Koṅgoda country ; from Koṅgoda a journey south-west for 1400 or 1500 *li* brought him to Kaliṅga ; from this place he went north-west for above 1800 *li* to South Kosala ; proceeding towards the south (south-east according to the *Life*) about 900 *li* he came to the Andhra country ; from here the pilgrim travelled for over 1000 *li* and reached Dhānyakaṭaka ; he then went south-west above 1000 *li* to the country of the Cholas ; a journey of about 1500 or 1600 *li* from the latter place brought him to the Drāviḍa country ; from here he went north for 2000 *li* to the Koṅkaṇa country ; proceeding north-west for about 2400 or 2500 *li* he came to Mahārāshṭra ; travelling further to the west above 1000 *li* across the Narmadā, the pilgrim reached Bhṛigukachchha. Continuing his journey through Sindhu, Baluchistan and Afghanistan, Hiuen Tsang ultimately found the Central Asian trade-route following which he went back to China.

Part of this road-system connecting the ports on the eastern coast with the cities and towns in the interior seems to have been in use from the remote past. In the Buddhist account, we find that two Burmese merchant brothers, Tapusa and Paleka, after transferring their merchandise from their ship into 500 carts at Adizeitta in Kaliṅga, went to Madhyadeśa. On their way they gave honey to the Buddha at Uruvela in the neighbourhood of Buddhagaya.[1] This convoy of 500 carts could move from Kaliṅga to Magadha only through a developed highway. The march of Aśoka's army all the way from Patna to Tosalī also required a highway where water-supply and food stuff were available in plenty. The movement of Khāravela's army consisting of the *chaturaṅga* from the Kaliṅga capital to Rājagṛiha presupposes the existence of a route with capacity for wheeled traffic. The famous expedition of Samudragupta resulting in the subjugation of all the countries on the eastern coast between South Kosala and Kāñchī would have been impossible unless there was a road connecting these kingdoms. Harsha in his conquest of Koṅgoda probably followed one of the routes connecting West Bengal and Orissa. In the *Maṇimekalai*,[1] mention is made of an invasion by the Chera monarch Seṅguttuvan, who is said to have crossed in the course of this campaign the Ganges, defeated Kanaka and Vijaya, and compelled them to carry a supply of stone for making an image of Kaṇṇaki out of it. As late in the 11th century Rājendrachola's army advanced from the banks of the Godāvarī towards north-east and reached the Ganges, vanquishing all the kingdoms on the way. These expeditions suggest that communication between eastern India and the eastern Deccan was in existence from very early times.

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[1] Bigandet, *Life of Gaudama*, pp. 101 and 425 ; *IA*, Vol. XVI, p. 49. In some texts, these two brothers known as Tapassu and Bhallikka (Bhalliya or Bhalluka) are represented as the sons of a caravan leader of Pokkharavatī in Ukkalā (according to a different version the merchant brothers were resident of Asitañjana). See Malalasekera, *Dictionary of Pali Proper Names*, Vol. I, p. 210 ; Vol. II, p. 367.

The *Periplus*[2] remarks that raw silk, yarn and silk cloth were exported from This to Damirica by way of the river Ganges. The route through which this silk-trade was conducted started, according to Schoff,[3] from Singanfu and then went across the Tibetan plateau to Lanchowfu ; branching here, it led to Siningful thence to Koko Nor, and southward, by Lhasa and Vale, to Sikkim and the Ganges. The river-route terminated at Tāmralipta, wherefrom one could go by sea or by road to Damirica.

Besides these great highways, there were other routes for caravan traffic. A *Mahābhāraṭa* passage indicates that both South Kosala and Vidarbha were linked with the kingdom of Nala by means of two separate roads. We also hear of great caravans travelling, through the Vindhya forest in the neighbourhood of the Nishadha country, to the Chedi *janapada*.[4] In the *Mālavikāgnimitra*, mention is made of a route joining Vidiśā with Vidarbha, which was frequented by the traders.[5] Daṇḍin describing the adventures of the ten princes says that, while proceeding through the woods of the Vindhya, two of them proceeded to Ujjayinī and one each to Champā, Mithilā, Vārāṇasī, Tāmralipta, Kaliṅga and Māhishmatī. Many of these routes, if not all, followed by the princes, undoubtedly met at one point or another with the great highways already described. Subandhu alludes in his *Vāsavadattā*[1] to a highway proceeding across the Vindhya to Pāṭalīputra. We are told that prince Kandarpaketu and his friend Makaranda, after going straightway from their city a distance of several hundred *nalvas*, came to the Vindhya. Travelling through woods and forests they reached Kusumapura (Pāṭalīputra). On his return journey Kandarpaketu again came to the Vindhya forest where he lost his bride. In search of her, the prince arrived at the sea-shore.[2] In the absence of any clear indication, it is not possible to say in what direction the prince proceeded to reach the sea. But that he went through Kaliṅga is evident.

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[1] S. Krishnaswami Aiyangar (ed.), *Maṇimekalai in its Historical Setting*, XXVI, p. 39.

[2] Sec. 64.

[3] Schoff, *op. cit.*, p. 272.

[4] *Mbh.*, Vana, 64.

[5] Act. V. 83.

The development of a network of roads made the movement from one place to another somewhat easy ; but the wild forests through which these roads often had to run discouraged free flow of trade and commerce. Fa-hien says, "The kingdom of Dakshiṇa is out of the way, and perilous to traverse. There are difficulties in connection with the roads ; but those who know how to manage such difficulties and wish to proceed should bring with them money and various articles, and give them to the king. He will then send men to escort them. These will (at different stages) pass them over to others, who will show them the shortest routes."[3] Hiuen Tsang visited the South Indian kingdoms after making his way through hills, woods and jungles, ravaged by wild beasts and infested with troops of murderous highwaymen and bands of robbers. In the legend of Purṇa, the people of Konkan are described as fierce, rude and cruel. A caravan on its way to the Chedi kingdom was attacked and destroyed by wild elephants.[4] Another group of merchants, travelling from Vidarbha to Vidiśā, was scattered by a gang of robbers. As the dangers on the way of caravan traffic were to affect adversely inter-state trade and commerce, the government could not sleep over the problem. Fa-hien's statement shows that the kings of South India provided the merchants with escorts and guides on receipt of the customary dues. There is possibility to think of the imposition of some sort of *chaukidāri* tax[1] for the maintenance of the staff whose duties included the apprehension of thieves and robbers and the responsibility for the safety of mercantile traffic.[2] For the convenience of the travellers, waterhouses (*prapā*) were constructed by the side of the roads.[3] In order to inspect the function of these waterhouses, sometimes the office of a superintendent was instituted.[4] The making of free ferry across the rivers and construction of rest-houses at important places[5] were also for the benefit of the travellers.

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[1] Gray (ed), pp. 67ff.

[2] *Ibid.*, p. 124.

[3] *FNSI*, p. 67.

[4] *Mbh.*, Vana, 65.

The security which a state, constantly under the strain of warfare and political upheavals, could offer to a trader was not always sufficient. The merchants themselves took adequate safety measures while travelling from one country to another. Usually, they gathered themselves in a large group under the leadership of an experienced caravan merchant (*sārthavāha*) before proceeding to any distant land. A number of armed guards were hired to protect them against any calamities on the way. But the odds against them were so heavy that, in spite of all measures of safety, they often had to suffer untold sufferings in the hands of the highway robbers.[6] Under the circumstances, we cannot but appreciate the courage and determination of those who braved the perils and hazards of the road and carried on their commercial activities from place to place.

Sea-Borne Trade

"Certain over-enthusiastic Indian scholars", Basham writes, "have perhaps made too much of the achievements of ancient Indian seafarers, which cannot compare with those of the Vikings, or some other early maritime peoples."[7] A more extreme view, however, has been expressed by Vincent in whose opinion the Hindus never were seamen,[1] and the Arabs were the only nation who could furnish mariners, carriers, or merchants in the Indian Ocean.[2] He assumed that the rule of Manu making sea-voyage an offence and the Brāhmaṇa sentiment until recently against sea applied to all Hindus at all times. His conclusion was that the Hindus, though they may have been merchants and shipowners, were never sailors. But the innumerable references to the Indians sailing for distant lands do not favour the view that the Indians were apathetic to sea-voyage. On the other hand, from the Sanskrit name of Socotra, that is Sukhatara or Sukhādhāra (Island abode of bliss), and from certain Hindu-like divisions and customs among the people of east Arabia, Lassen[3] concludes that the first sailors and colonisers on the Indian Ocean came from India. Duncker[4] agrees with Lassen when he says that the mention by Artemidorus of leather boats on the Sabaean or Yemen coast proves that the Arabs were not deep sea sailors. Schweinfurth[5] also holds that the shipping and the coast towns of the Red Sea are of Indian origin. Though there may be some exaggeration in these opinions, there is little doubt that from the earliest times the Hindus have been among the chief sailors of the Indian Ocean.[6] In the Pali works, we find a vigorous seafaring community sailing on voyages of six months' duration.[7] The use of birds by the mariners for discovering the proximity of land in early historical times in India is also a clear reference to ocean-navigation.[8] In the *Rāmāyaṇa*,[9] a boat in the mid-sea with heavy cargo is an apt metaphor. The *Periplus* gives a graphic account of the Indian merchants' participation in the international trade. At the time of its composition the merchants of the country round Barygaza 'traded to Arabia for gums and incense, to the coast of Africa for gold, and to Malabar and Ceylon for pepper and cinnamon' and thus completed the navigation of the entire Indian Ocean.[1] Hiuen Tsang[2] says that the inhabitants of Bhṛigukachchha were supported by the sea. Here we may have an allusion to the sea-faring trading community which dominated in the said territory. The evidence of the Jātakas shows that the inhabitants of the coast countries were expert navigators. Sometimes they were organised in guilds under a *jeṭṭhaka* or elder. In Sūrpāraka existed one such guild the members of which were hereditary pilots of merchant ships and other vessels.[3] In Bṛigukachchha, the native fishermen in the king's service piloted the vessels of foreign countries on the difficult waters of the gulf of Cambay.[4] Reference to the sailors, however, is not confined to the literature alone. An epigraph[5] from Ghantasala (ancient Kantakossyla of Ptolemy) records the gift of the wife of the *mahānāvika* (master mariner) Śivaka. The epithet *mahānāvika* applied to Śivaka suggests that he had the experience of many sea-voyages.[6]

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[1] *Chorarrajju* in *AS*, II. 6.

[2] Cf. *AS*, II. 34.

[3] *GS*, II. 61 ; *EI*, Vol. VIII, Nasik inscription, No. 10.

[4] Lüders' List, No. 1279.

[5] *EI*, Vol. VIII, Nasik inscription, No. 10.

[6] Cf. e.g., *Mālavikāgnimitra*, Act. V. 87.

[7] *The Wonder that was India*, p. 226.

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[1] *Commerce of the Ancients,* Vol. II, p. 404.

[2] *Ibid.*, pp. 2, 62, 480.

[3] *Ind. Alt.*, Vol. II, pp 583, 586f ; cf. also *As. Res.*, Vol. III, pp. 9-10.

[4] *History of Antiquity*, Vol. I, p. 319.

[5] *Heart of Africa*, Vol. I, p. 51.

[6] For a discussion of India's participation in the maritime activities on the Indian Ocean since pre-historic times, see *Bomb. Gaz.*, Vol. XIII, Part II, pp. 404ff.

[7] *Saṁyuktanikāya*, trans., Mrs. Rhys Davids, p. 155.

[8] Cf. *Dīghanikāya*, XI, 17, trans. Mr. & Mrs. Rhys Davids, p. 222 ; *Jāt.*, III, 267.

[9] Kishkindhā, XVI. 24 ; *S'RENI*, p. 297.

For the purpose of trade and commerce with the foreign countries, numerous *paṭṭanas* or ports grew up along the coast of Indian Peninsula. The *Periplus* and Ptolemy's *Geography* give a long list of sea-port towns busy in loading and unloading cargo-ships. From the point of importance, Barygaza (Bharukachchha or Bhṛigukachchha ; mod. Broach) on the estuary of the Narmadā surpassed all other ports. The *Periplus* notices the great volume of trade conducted through this port. Commodities from different parts of India and even from China were brought to Barygaza for exportation to the west. Through this port also were supplied goods of western origin to the Indians.

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[1] Vincent, *op. cit.*, p. 404.

[2] Watters, *op. cit.*, p. 241.

[3] *Jāt.*, IV. 436.

[4] *The Periplus*, Sec. 44.

[5] *EI*, Vol. XXVII, p. 4.

[6] An inscription in Malay Peninsula, of the 4th or 5th century A.D., records the gift of a *Mahānāvika* Buddhagupta, who was a native of Raktamṛittikā. See R.C. Majumdar (ed.), *History of Bengal*, Vol. I, p. 671.

After Barygaza, the *Periplus* refers to two market-towns, *viz.*, Suppara and Calliena. Suppara is ancient Sūrpāraka and modern Sopara near Bassein, a few miles to the north of Bombay. According to Buddhist tradition, Sopara was a royal seat and a great centre of commerce during the lifetime of Gautama Buddha.[1] In the *Old Testament*, King Solomon is stated to have despatched to Ophir the ships he had hired from the Tyrians. As we have seen before Ophir is taken to have corresponded to Sopara since in the *Septuagini*, the Greek version of the *Old Testament*, the word occurs as Sophara, while *Sofir* is the Coptic name for India[2]. If Solomon's *Sofir* or Ophir really stands for Sopara, then it should be admitted that as early as the beginning of the first millennium B.C., the said port of Western India existed as an important trading centre. Sopara continued to be a flourishing market-town for a pretty long period. Alberuni, who referred to it as Sūbāra, testifies to its survival till the 11th century.[3]

Calliena or Kalyāṇa is placed in the ancient land of Aparānta in a Kanheri cave inscription[4]. It is still represented by the place of the same name in the Thana District. Cosmas Indicopleustes,[5] in the 6th century A.D., found it as one of the five chief marts of Western India.

Dounga, which Ptolemy places after Souppara and before Simylla, has been identified by Cambell with Dugad, ten miles north of Bhiwandi. But Dugad being too far inland and situated to the north of Sopara, the identification does not find favour with others.[6]

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[1] Burnouf, *Introduction a' l'Histoire du Buddhisme Indien*, Vol. I, pp. 235-270 ; *BG*, Vol. XIII, Part II, p. 404.

[2] See Majumdar-Sastri, *op. cit.*, p. 41. Schoff, however, refers to latter scholarship which is sufficiently sure in locating Ophir on the Arabian coast of the Persian Gulf, but the learned writer observes at the same time that the Indian names for the products brought from Ophir proved that it was a trading centre dealing with India, even if the land itself was not in India (see *The Periplus*, p. 175).

[3] Sachau, *Alberuni's India*, Vol. I, p. 209 ; see also Yazdani (ed.), *EHD*, p. 55. Sūbāra, also known as Surabaya, is mentioned as a port by Istakhrī, Ibn Haukal, Edrīsī and Abū-l-Fida (see Elliot and Dowson, *The History of India as told by its own Historians*, Vol. I, pp. 402f.).

[4] Lüders' List, No. 1013.

[5] *FNSI*, p. 89.

[6] Majumdar-Sastri, *op. cit.*, p. 42.

Semylla or Simullya, which appears as a cape and a mart in Ptolemy's list, is mentioned by the *Periplus* immediately after Sopara. Yule identifies this with Chaul and remarks, "Chaul was still a chief port of Western India when the Portuguese arrived. Its position seems to correspond precisely both with Simylla and with the Saimūr or Jaimūr (*i.e.*, Chaimur, the Arabic alphabet having no *ch*) of the Arabian geographers."[1]

In the *Periplus*, the sea-ports following Semylla are Mandagora, Palaepatmae, Melizigara, Byzantium, Togarum and Aurannoboas. Ptolemy, however, slightly changes the order and makes Simylla to be followed by Hippokoura, Balipatna, Mandagara, Byzanteion and Chersonesos.

Mandagora has been identified with Mandagad in the Ratnagiri District at the mouth of the Sāvitrī river. In former times, it was a great centre for the trade in teak and blackwood, and for ship-building.[2]

Hippokoura of Ptolemy has been variously identified with Ghodabandar in the Thana Strait, Ghoregaon in Kolaba and Kuda near Rajapura.[3]

Palaepatmae, referred to by Ptolemy as Balipatna, has been identified by Yule and Schoff[4] with Dabhol while Raychaudhuri[5] prefers to identify it with the port and fort at Anjanwel in the Ratnagiri District.

Melizigara or Melizegyris has been described by Ptolemy wrongly as a port of the Far South. Pliny[6] refers to it as Sigerus. McCrindle identifies it with Jaigarh, while Schoff thinks that it may also be modern Rajapura.

Byzantium or Byzanteion is probably the modern Vizadrog (Skt. Vijayadurga), a famous harbour on the western coast.

Togarum has been identified with modern Devgarh, and Aurannoboas with Malvan. These identifications are, however, not beyond doubt.

The Greek word *Chersonesos*, means 'a Peninsula'. This answers for the projecting point at modern Karwar, a trade centre in early times and active port as late as the 16th century.[1]

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[1] *Loc. cit.*

[2] Schoff, *op. cit.*, p. 201.

[3] Majumdar-Sastri, *op. cit.*, pp. 44-45.

[4] Schoff, *op. cit.*, p. 201.

[5] See *EHD*, Vol. I, p. 59n.

[6] *Nat. Hist.*, VI. 26.

There is mention in the *Apochrypha* of an Andrapolis as a port in Western India.[2] The identification of the port is uncertain ; but the name suggests that it flourished under the Sātavāhana rule.

Many of the ports described above continued to retain their importance for a long time. This is indicated by a Śilāhāra inscription[3] of A.D. 1095 which refers to tolls on carts coming into Sthānaka (Thana), Nāgapura (Nagaon near Alibag), Sūrpāraka, Chemūli (Chaul) and other sea-ports in the Konkan —1400.

As on the western coast, a number of port towns also grew up on the eastern coast. The classical writers indicate that the cities lying close to the mouth of the Kṛishṇā, Godāvarī, Lāṅgulinī and Vaṁśadhārā were the points of departure for ships for Chryse and other distant places.

The *Periplus* refers to Masalia (Maisolia of Ptolemy) as the sea-board of a country extending far inland. The river Maisolos, from whose mouth Maisolia starts according to Ptolemy's *Geography*, has been identified with the Kṛishṇā. The name Masalia is Sanskrit *Musala*, which survives in the modern Masulipatnam, which until recently was the chief port of entry for the Deccan. At the time of the *Periplus* it was, no doubt, the greatest market of the Andhra kingdom. Tavernier[4] found it "the best anchorage in the Bay of Bengal, and the only place from which vessels sail for Pegu, Siam, Arakan, Bengal, Cochin, Macca and Hormus, as also for the islands of Madagascar, Sumatra and the Manillas." Close to the mouths of the Kṛishṇā Ptolemy places three sea-port towns, *viz.*, Kantakossyla, Koddoura and Allosygne. The first must have been Kaṇṭakasola or Kaṇṭakaśūla mentioned in the Amaravati and Nagarjunakonda inscriptions.[5] It has been identified with Ghantasala which yielded two inscriptions[6] recording the gift by a householder who was a resident of Kaṇṭakasola. Remains of a great

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[1] Schoff, *op. cit.*, p. 202.

[2] *FNSI*, p. 5.

[3] See *EHD*, p. 55.

[4] *Travels in India*, I. xi.

[5] Lüders' List, No. 1303 ; *EI*, Vol. XX, p. 22.

[6] *EI*, Vol. XXVII, p. 3.

Stūpa belonging to the Sātavāhana age have been discovered at this place.[1] Koddoura is undoubtedly Kudura, the headquarters of a district under the Bṛihatphalāyanas and the Sālaṅkāyanas. It is now represented by Guduru, a town near Masulipatnam. Allosygne may be the present Koringa (Koranja), a port situated a little beyond the point of the Godāvarī. Not far from these places lay the *apheterion*, the point of departure of ships bound for Chryse. Yule[2] says that it was not a harbour from which voyages to Chryse were made, but the point of departure from which vessels bound thither struck off from the coast of India, while those bound for the marts of the Ganges continued their coasting.

The *Periplus*, says that beyond Masalia towards the east 'is the region of Dosarene'. The coast of this country was studded with a number of ports. Two of them mentioned by Pliny,[3] *viz.*, Cape Calingon and Dandagula, were probably situated close to Srikakulam at the mouth of the river Lāṅgulinī or Lāṅguliyā in the north-eastern part of the Visakhapatnam District. We have reference to a Dantapuravāsaka in several copper plate inscriptions of the Gaṅgas.[4] The name of the city probably survives in that of the fort of Dantavaktra near Srikakulam in the Visakhapatnam District.[5] It is probably the same as Dantakura of the *Mahābhārata*[6] and Palura of the Nagarjunakonda inscriptions.[7] Lévi[8] thinks that it was identical with Paloura of Ptolemy.[9] In the *Mahāvaṁsa*,[10] mention is made of a port from which Vijaya left India for Ceylon. It is probably Siṁhapura, the ancient capital of Kaliṅga, and modern

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[1] Rea, *South Indian Antiquities*, p. 132.

[2] Majumdar-Sastri, *op. cit.*, p. 69.

[3] *Nat. Hist.*, XI. 21.

[4] Cf. *EI*, Vol. XIV, p. 361, etc.

[5] It is worth mentioning that Dantapura of Kaliṅga is famous among the Jainas as the capital of King Dantavakra (vakka). See P.C. Bagchi (tr.), *Pre-Aryan and Pre-Dravidian in India*, p. 166.

[6] Udyoga, 23 and 47.

[7] *EI*, Vol. XX, p. 22.

[8] See Bagchi, *op. cit.*, pp. 163ff.

[9] Cf. *Pal* (tooth) + *ūr* (city) = Danta (tooth) + pura (city). Oldham identifies Paloura with a village called Paluru about six miles north-east of Ganjam (*JBORS*, Vol. XXII, pp. 1ff.).

[10] VI, pp. 35ff.

Singapuram between Srikakulam and Narasannapeta. In the northern section of the eastern coast, apparently in Kaliṅga, lay the port of Adizeitta mentioned in the Burmese legends as the terminus of a sea-route across the Bay of Bengal.[1]

From the ports described above merchants sailed in their cargo-ships to explore the Indian Ocean. The *Periplus*[2] speaks of a variety of ships, called *Colandia*, in which the traders of the south made their voyage to Chryse and the Ganges. In the Jātakas, the ships used for overseas trade are often represented as very large to accommodate five hundred to one thousand passengers.[3] This may be an exaggeration. The capacity of the largest Indian ship known to Pliny, was 3,000 *ampharae*, or only seventy-five tons.[4] The ship carrying Fa-hien from Ceylon to China with two hundred passengers seems to have been the largest vessel known to us from any authentic source. It is doubtful whether the ship was Indian, but evidently this type of vessels was in general use for communication between India and S.E. Asia. From the sculptures, paintings and representations on the coins we may also get some idea about the ships used in maritime activities. Some lead coins of the Sātavāhanas found in the Coromondel Coast and elsewhere bear representations of ship on their obverse.[5] The obverse of the first coin shows a ship resembling the Indian *dhoni*, with bow to the right. The vessel is pointed in the vertical section at each end. On the point of the stem is a round ball. The rudder, in the shape of a post with spoon on end, projects below. The deck is straight, and on it are two round objects from which rise two masts, each with a crosstree at the top. Traces of rigging can be faintly seen. The obverse of the second coin shows a ship, the device of which resembles the first. The features, however, are not quite distinct. The deck in the specimen is curved. The obverse of the third coin represents a device similar to the preceding, showing even more distinctly than the first. The rigging is crossed between the masts. On the right of the vessel appear three balls and under the side are two spoon-shaped oars. Codrington[1] recognised four types of ships in the paintings of Ajanta. The simplest of these appears in Cave XVII. It is canoe-like and has two masts, one topped by a trident emblem. It is, however, clearly not a dug-out. Again, in the same cave, the army of Siṁhala is shown in the process of transportation, horses in one boat and elephants in two ohers. These boats are wide in the beam and ride low in the water ; their grotesque *makara* figure-heads are the most notable thing about them. The boat in the so-called *Māhajanaka Jātaka* scene in Cave I is symmetrically built with high-pitched finely-cut bow and stern, on both of which *oculi* are painted. Its fore-and-aft planking is plainly shown. The passengers sit at their ease under a square awning, while the motive power seems to be confined to the efforts of a single sailor in the bows and of his mate who works a long paddle on the starboard side from a most precarious perch on a ladder set vertically in the stem sheets. The merchant ship[2] in distress in the *Pūrṇa Avadāna* scene in Cave II seems to be massively built, and the presence of twelve large pitchers of fresh water in its bow may indicate that the vessel is bound for a long voyage. A pair of oars is visible, each of which is attached to the side of the boat. Dragons' heads are carved both in the front and hind parts of the boat, and there is a lip-like projection at each and which adds to the picturesqueness of the design and might be useful for steering purposes as well, specially in shallow waters. Near the oar, on the starboard side, there is a plank frame, which apparently marks the place whence the captain of the boat regulated the steering. There are three masts, apparently of timber, from which sails are hung. There is a post fixed to the frame in the stern of the boat as well, from which another sail (jib-sail ?), fully blown by wind, may be seen. The vessel is of the *Agramandira* type as defined in the *Yuktikalpataru*. This type of ships having their cabins towards prows were eminently suited for long voyages and also for naval warfare.[3] The *Periplus*[4] refers to two types of large-boats, called *Trappaga* and *Cotymba*. These were used by the native fisher-men who were engaged in piloting the foreign ships on the Gulf of Cambay. Lassen[1] derives the name *Trappaga* from *Trapaka*, a type of fishing boat mentioned by other travellers visiting Western India. The second name suggests the modern *Kotia*, a craft found by Burton[2] coming to the Somali ports from the western coast of India.

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[1] *IA*, Vol. XVI, p. 6.

[2] Sec. 60.

[3] Basham, *op. cit.*, p. 226.

[4] *Loc. cit.*; *Nat. Hist.*, VI. 22 (24).

[5] Cf. Rapson, *Catalogue of the Coins of the Andhra Dynasty etc.*, pp. LXXXIf and 22; Rea, *South Indian Antiquities*, p. 29; Mookerji, *Indian Shipping*, pp. 35f.; see also *JNSI*, Vol. III, pp. 52-54.

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[1] *IA*, Vol L'X, p. 169.

[2] Yazdani, *Ajanta Frescoes*, Part II, Plate XLII.

[3] Cf. *chirapravāsayātrāyāṁ raṇe kāle ghanātyaye* (Mookerji, *op. cit.*, p. 29).

[4] Sec. 44.

Supported by a number of ports on either side of the Peninsula, equipped with well-fitted ships and guided by expert navigators, Indian merchants began to participate in the international trade from an unknown period. In the Buddhist literature, Indian ports occurring side by side with those of China and S.E. Asia and of the Roman empire testify to their effective intercourse with 'all the known ranges of the commercial world'. In an enumeration of the typical naval stations likely to be visited by a successful ship's captain, the *Milindapañha*[3] includes Vaṅga (Banka island ?), Takkola, Chīna, Sovīra, Suraṭṭha, Alasanda (Alexandria), Kolapaṭṭana (Kāverīpaṭṭinam ?) and Suvaṇṇabhūmi. The *Mahāniddesa*, a commentary on the *Suttanīpāta*, mentions that a merchant "under the influence of pleasure, sails on the great ocean either frozen or burning, a prey to the mosquitoes, the gnats, the winds, the sun, and the serpents and suffering from hunger and thirst ; he goes to Gumba, Takkola, Takkasilā, Kālamukha, Maraṇapāra, Vasuṅga, Verapatha, Java, Tamali, Vaṅga (Banka island ?), Elavaddhana, Suvaṇṇakūṭa, Suvaṇṇabhūmi, Tambapaṇṇi, Suppāra, Bharukachchha, Suraṭṭha, Aṅganeka, Gaṅgana, Paramayona, Allasanda, Marukāntāra, Jaṇṇupatha, Ajapatha, Mendhapatha, Saṅkupatha . . ."[4] In this outline of a vast *Periplus*, which starts from the Far East, touches the coast of India and goes much further in the west we recognise the trace of an active sea-borne trade between the east and the west *via* India.

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[1] Quoted by Schoff, *op. cit.*, p. 182

[2] *First Footsteps*, p. 408, referred to by Schoff, *loc. cit.*

[3] *SBE*, Vol. XXXVI, p. 269.

[4] S. Levi, 'Ptolemy, the Niddesa and the Brihatkatha' (translation by P. C. Bagchi of 'Ptolemy Le Niddesa et la Brihatkatha,' in *Etudes Asiatiques*, Vol. II, pp. Iff.), *SIS*, Vol. II, p. 61.

India's trade with the west probably existed from the prehistoric times. This is supposed by the discovery of Indian teak at Ur.[1] As early as 1600 B.C., the Egyptians had many Indian products, *e.g.*, agates, haematite, the lotus, indigo, pepper, cardamoms, ginger, cinnamon, and Indian muslins.[2] According to Lenormant, the bas-reliefs of the temple of Deir-el-Bahari at Thebes represent the conquest of the land of Pun under Hatasu. "In the abundant booty loading the vessel of Pharaoh for conveyance to the land of Egypt appear a great many Indian animals and products not indigenous to the soil of Yemen— elephants' teeth, gold, precious stones, sandalwood, and monkeys."[3] A doubtful reference to trade between India and the West in *c.* 800 B.C., may be found in the *Old Testament*. In the Book of *Genesis*,[4] there is mention of a company of traders with camels carrying spicery, balm and myrrh, going to Egypt. In Book I of *Kings*,[5] it is stated how during the reign of Solomon, a navy, equipped by Hiram, king of Tyre, made a voyage to Ophir and fetched from that place 'gold and silver, ivory, apes, peacocks and great plenty of almug trees and precious stones'. In the Book of *Ezekiel*,[6] which dwells on the commerce of Tyre, there are mentioned commodities which are undoubtedly of Indian origin. It is interesting to note that in the list of articles of merchandise brought from Ophir we have some Indian words. "Thus 'ivory' is in the Hebrew text *shen habbin* 'elephant teeth', a literal translation of Sanskrit *ibha-danta*. The 'almug' is Sanskrit and Tamil *valgu*, and Greek *santalon* (sandal) is obviously derived from Sanskrit *chandana*. The word used for 'ape' is not the ordinary Hebrew one, but *koph*, most probably the same as Sanskrit *kapi*. 'Peacocks' are *thuki-im*, the same as the Tamil *tokei*."[7] Even if there is some doubt about the identification of Ophir with Sopara, the Indian names of the said articles show that, if not directly procured from Sopara, these were exported originally from India to an intermediary station before their shipment to Solomon's kingdom. Foulkes[1] rightly observes that it is now "scarcely to be doubted that the rich Oriental merchandise of the days of King Hiram and King Solomon had its starting place in the sea-ports of the Dakhan ; and that with a very high degree of probability some of the most esteemed of the spices which were carried into Egypt by the Midianitish merchants of *Genesis*, XXXVII. 25, 28, and by the sons of the Patriarch Jacob (*Gen.*, XLIII. II) had been cultivated in the spice-gardens of the Dakhan." When viewed in this context, the resemblance of the apsidal plan of the Deccanese *chaityas* with that of the house of God of the Phoenicians does not appear to be mere accidental.[2] Minor traces of Western Asian influence may also be seen in the early sculpture of the Deccan ; for instance, the winged animals at Pitalkhora, Aurangabad District, have a close resemblance to their prototypes in Assyria while the crenellated or stepped parapet, carved at Kondane, Karle, Ajanta and other early Buddhist sites, is very common in North African Islamic monuments and has recently been discovered on the monuments of Ur.[3]

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[1] Sayce, *Hibbert Lectures* for 1887, pp. 137-38.

[2] Wilkinson, *Ancient Egyptians* (Popular ed.), Vol. II. p. 237 ; *Herodotus* (ed. Rawlinson), II. 64, 168, 173, 275. It is doubtful whether the Egyptians traded directly with India. See *BG*, Vol. XIII, Part II, p. 404.

[3] *Hist. Anc. del Orient*, Eng. ed., Vol. II, pp. 299, 301 quoted in *IA* Vol. XIII, p. 228 ; also Mookerji, *Indian Shipping*, p. 63.

[4] XXXVII, 25.

[5] IX. 26, 27, 28.

[6] XXVII. 24.

[7] *The Age of Imperial Unity*, ed. Majumdar, p. 612 ; see also Caldwell, *A Comparative Grammar of the Dravidian Languages*, p. 91.

Coming to the period of the Buddha, we find references to India's contact with Western Asia. Rhys Davids says, "Sea-going merchants, availing themselves of the monsoons, were in the habit at the beginning of the 7th (and perhaps at the end of the 8th) century B.C., of trading from ports on the south west coast of India (Sovīra at first, afterwards Suppāraka and Bharukachchha) to Babylon, then a great mercantile emporium."[4] The evidence of the Jātakas[5] and some of the Sanskrit[6] law-books leads Jackson also to conclude that 'ships from Broach and Suppara traded with Babylon (Bāveru) from the 8th to the 6th century B.C.'[1]

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[1] *IA*, Vol. VIII, p. 10.

[2] *EHD*, p. 721.

[3] *Loc. cit.*

[4] *Buddhist India*, p. 116.

[5] Fausboll, Nos. 339 and 463.

[6] *SBE*, Vol. II, p. 228 : Vol. XIV, pp. 146, 200, 217.

The trade between India and Western Asia continued unabated during the Seleucia period. Wares from Western India now began to come by ships to the Persian Gulf and up the Tigris to Seleucia. From Seleucia the trade passed westward, to Antioch or to Edessa, Damascus and Tyre. From Antioch, a great direct route, the old Royal Road, ran by Tarsus and Apamea in Phrygia to the sea at Ephesus.[2] There also existed a southern route following which Indian shippers came to depots in south or south-east Arabia, where they landed their goods. The wares then reached the Romans through the Arab merchants. The Arabs guarded their monopoly of the Indian trade so jealously that no Indian vessel was allowed inside Bab-el-Mandeb and no Egyptian was permitted to go beyond Eudaemen.[3] The *Periplus*[4] says, "It was called Eudaemen because in the early days of the city when they did not dare to sail from Egypt to the ports across this ocean, but all came together at this place, it received the cargoes from countries, just as Alexandria now receives the things brought from abroad and from Egypt."

The Arab monopoly of Indian trade continued during the time of the Ptolemies. In 177 B.C., Agatharcides, who was the President of the Alexandrian Library, describes Sabaea (Yemen) as being the centre of commerce between Asia and Europe, and very wealthy because of the monopoly of the Indian trade.[5] But 'two strokes of fortune', as Tarn[6] puts it, brought the Egyptians nearer to India. By the end of the 2nd century B.C., the Sabaean power broke and, about 120 B.C.— 117 B.C., under Ptolemy Euergetes II, an Indian who was the sole survivor of the crew of a ship was picked up half-dead in the

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[1] *Bombay City Gazetteer*, Vol. II, p. 3, quoted by Mookerji, *Indian Shipping*, pp. 62f ; see also Kennedy, 'Early Commerce with Babylon,' *JRAS*, 1898, pp. 241ff. Many of the Jātaka stories were written long after Buddha, but the information supplied by them may have bearing on earlier periods.

[2] Tarn, *Hellenistic Civilisation*, p. 243.

[3] *Ibid.*, p. 244.

[4] Sec. 26.

[5] Mookerji, *op. cit.*, p. 92.

[6] *Op. cit.*, p. 247.

Red Sea ; with his help, Eudoxus of Cyzicus, in Ptolemy's service, made the first (European) sea-voyage to India and back. This voyage encouraged Roman merchants to venture outside the Red Sea and ships of the later Ptolemies visited South Arabian ports and sometimes sailed through to India.[1] By 78 B.C., the general of Thebaid had become also general of the Red Sea and the 'Indian Sea', a new name which points to regular connection with India.[2] Indian merchants on their side began to make direct voyages to the Somali ports, and Indians appeared in Egypt. A grave stone with wheel and *triśūla* attests to the presence of Indians in Alexandria.[3] One Indian merchant, crossing the desert from the Red Sea to the Nile on his way to Alexandria, left a brief inscription in a temple at Redesiye : "Sophen (Subhānu) the Indian does homage to Pan for a good journey."[4]

The discovery of monsoon by Hippalus of Alexandria in the late Ptolemaic or early Augustan period brought a revolution in the Indo-Roman trade relation. Both Pliny and the author of the *Periplus* describe how, as a result of this discovery, the Graeco-Roman merchants were able to abandon coastal voyage along the perilous and inhospitable Arabian coast and could steer from the ports near the mouth of the Red Sea a tolerably straight course across the approaches to the Persian Gulf, 'quite away from the land' to the Indus and Barygaza. Merchants for Damirica, however, sailed directly a little south of east across the Arabian Sea, throwing the ship's head considerably off the wind and in favourable circumstances reached Muziris in 40 days. Pliny[5] also describes how traders from Alexandria came to Coptos by a camel-route and thence to Berenice to avail themselves of the India bound vessel. "Passengers generally set sail at midsummer, before the rising of the Dog Star, or else immediately after, and in about thirty days arrive at Ocelis in Arabia, or else at Cane, in the region which bears frankincense. There is also a third port of Arabia, Muza by name ; it is not, however, used by persons on their passage to

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[1] Strabo, II. iii. Tarn, *op. cit.*, p. 247.

[2] Tarn, *op. cit.*, p. 248.

[3] *JRAS*, 1898, p. 875 ; Tarn, *op. cit.*, p. 248.

[4] *JRAS*, 1904, p. 399 ; Basham, *op. cit.*, p. 228.

[5] *Nat. Hist.*, VI. 23.

India, as only those touch at it who deal in incense and the perfumes of Arabia . . . To those who are bound for India, Ocelis is the best place for embarkation. If the wind called Hippalus be blowing, Muziris, the mart of India, can be reached in forty days . . . Travellers sail back from India in the beginning of the Egyptian month Tybis— our December— or at all events before the 6th day of the Egyptian month Mechir, that is before the *Ides* of January. In this way they can go and return the same year. They sail from India with a south-east wind, and on entering the Red Sea catch the south-west or south."[1] The discovery of Hippalus gave a rude shock to the Arabs' control over the Indian trade. They, therefore, tried to obstruct in every way the Roman vessels for India. But before long they were put down, and Arabia Eudaemon was destroyed by the Roman army. The service rendered by the Imperial army to the cause of Indo-Egyptian trade has been recorded by Strabo in the following words, "The entrance of a Roman army into Arabia Felix under the command of my friend and companion Aelius Geallus, and the traffic of the Alexandrian merchants whose vessels pass up to the Nile and Arabian Gulf to India, have rendered us much better acquainted with these countries than our predecessors were. I was with Gallus at the time he was prefect of Egypt, and accompanied him as far as Syene and the frontiers of Ethiopia and I found that about 120 ships sail from Myos-Hormos (modern cluster of islands called Jibātin) to India, although in the time of the Ptolemies scarcely any one would venture on this voyage and the commerce with the Indians."[2]

The Arabs' control over the entrance of the Red Sea being effectively curbed, the Indians also were free to make direct voyage to the Egyptian ports. The growing intimacy between India and the Roman empire is emphasised by the trade missions sent, under the veil of goodwill missions, to different Roman emperors by several Indian states. Strabo, on the authority of Nicolaos Damaskenos, refers to an Indian embassy sent to Augustus Caesar. The embassy was accompanied by a man who sacrificed himself in sacred pyre. On his tomb was this inscription: "Zarmanochegas (*Śramaṇāchārya ?*), an Indian from Bargosa (Barygaza), having immortalised himself according to the custom of his country, lies here."[1] It is significant that the king who had sent the embassy, offered Augustus a free passage through his dominions, and agreed to co-operate with him in anything that was honourable, 'a sentiment which suggests the effusive adumbration of a trade agreement'.[2] This was, however, not the only embassy received by Augustus. In his monumental record at Ankara, the Caesar declares that Indian missions came to him 'frequently'.[3] During the reign of Trojan (98-117 A.D.), another Indian embassy was entertained regally and its members given Senators' seats at the theatre.[4] There are also specific references to envoys from the Bactrian kings visiting the court of Hadrian (117-138 A.D.) and to Indian Bactrian and Hyrcanian embassies entertained by Antonius Pius (138-161 A.D.). Bardesanes, the Babylonian, who wrote an account of the Indian Gymnosophists, gathered his information from one Sandanes (Sandales, Dandamis or Damadamis), an Indian, who came with an embassy to Syria to welcome the emperor Elagabalus to the throne in 218 A.D.[5] Rawlinson[6] thinks that Sandanes probably came from the Deccan. Of the later emperors receiving such missions, recorded evidence mentions the names of Aurelian (270-275 A.D.), Constantine (323-353 A.D.) and Julian (361-363 A.D.). Two more Indian embassies were probably sent to Justinian in 530 and 552 A.D.[7]

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[1] *AICL*, pp. 111-12.

[2] II. v. 12.

In the train of these political embassies came numerous Indian merchants to flood the Roman markets with spices and other luxury-goods. In the Indian literature, the names, of the Egyptian ports began to appear as ultimate destinations of sea-going merchants. We have already noticed that the

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[1] *FNSI*, pp. 46f.

[2] Wheeler, *Rome beyond the Imperial Frontiers*, p. 134.

[3] *Ibid.*, p. 133.

[4] *Dion Cassius,* IX. 58; Rawlinson, *Intercourse between India and the Western World;* p. 128.

[5] *De Abstinentia*, IV. 17-18.

[6] *Op. cit.*, pp. 146f.

[7] See Majumdar in *The Age of Imperial Unity*, p. 625; *AICL*, pp. 212-3; Priaulx, *The Indian Travels of Apollonius of Tyana and the Indian Embassies to Rome*, p. 132; Warmington, *Commerce between Roman Empire and India*, pp. 35-7, 77, 95, 99, 103, 124, 137-9.

Mahāniddesa and *Milindapañha* include Yona and Paramayona (Hellenistic countries) along with Allasanda[1] and Marukāntāra (unidentified) among places beyond the ocean visited by the ships. The latter work[2] shows acquaintance with ocean-going ships freighted with hundreds of thousands of packages, and others carrying numerous passengers and provided with masts, anchors, straps, sails and ropes. Dion Chrysostom[3] (*c.* 117 A.D.) refers to persons who came from India 'in pursuit of trade'. The same writer witnessed Indians among the population of Alexandria. Thus he says,[4] "in the midst of you (Alexandrians) (are) not only Greeks, Italians, Syrians, Lybians, Cicilians, Ethiopians, Arabians, but even Bactrians and Scythians and Persians, and some Indians who view the spectacles with you on all occasions." Ptolemy[5] also noticed the presence of Indians in Alexandria. The Indians visiting Egypt were treated with much hospitality and we hear that the Brāhmaṇas, who went to Alexandria in 470 A.D., were the guests of Consul Severus.[6]

Though for earning more profit and for satisfying their curiosity many Indians went as far as Alexandria, the average seamen stopped at Dioscorida (Socotra), 'an unattractive but convenient island' off Cape Gardafui. During the Ist century A.D. it had a considerable Indian colony. The *Periplus*[7] noticed that the inhabitants of the island were a mixture of Arabs, Indians and Greeks. The antiquity of Indian contact with the island is suggested by the name of the place itself which is a corruption from the Sanskrit Dvīpa Sukhatara, "The most pleasant Island". Agatharchides refers to it as a stopping-place for the voyages between India and Arabia. From the Egyptian records it appears that Socotra was an important centre of international trade not far from the time of Abraham.[8] "Here the occasional navies of Egypt met the peoples of Arabia and Africa and the traders of India, from the Gulf of Cambay and perhaps in greater number from the active ports in that ruined sea of past ages, the Runn of Cutch."[1] As a trading port, Socotra continued its importance as late as the time of Marco Polo,[2] who found "a great deal of trade there, for many ships came from all quarters with goods to sell to the natives. A multitude corsairs (called Bawari from Cutch and Gujarat) frequent the island . . ."

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[1] The first Indian mention of Alexandria is in the *Gārgī Saṁhitā* (Rawlinson, *op. cit.*, 138).

[2] See pp. 261, 377.

[3] *Oratio*, XXXV. 434.

[4] *Oratio*, XXXII. 373.

[5] *AICL*, p. 117 ; *JRAS*, 1904, p. 611.

[6] Pr'aulx, *op. cit.*, p. 189 ; *The Age of Imperial Unity*, p. 635.

[7] Sec. 30.

[8] Hommel, *Ancient Hebrew Traditions*, pp. 35-36 ; Schoff, *op. cit.*, p. 135.

The voyages of the Indian merchants to the Mediterranean world were reciprocated by similar voyages to the Indian coast. Strabo's remark about the sailing of 120 ships a year to India has already been quoted. In the Sangam literature,[3] there are constant references to the Yavana ships coming to the Malabar Coast bringing in gold in their well-rigged ships to pay in exchange for the spices which they carried from there. We find in a census-list of the time of Vespasian (69—79 A.D.) that an Egyptian is registered as being absent in India.[4] Pausanias[5] refers to merchants visiting India and tells of the parrots and marvellous creatures they bring back. Trojan, during his Parthian expedition, travelled to the mouth of the Euphrates and, seeing the ships spreading their sails for India, exclaimed, 'Above all things would I have passed over to India, were I still young'.[6] One of the Papyri of the 2nd century A.D. discovered by Grenfell and Hunt at Oxyrhynchus in Egypt,[7] probably contains reference to some such voyages occasionally undertaken by the Roman subjects. The text, a farce is concerned with a Greek lady named Charition, who has been stranded on the coast of a country bordering the Indian Ocean, which is apparently India as the king of that country addresses his retinue by the words 'chiefs of the Indians'.

[1] Schoff, *op. cit.*, p. 135.

[2] III. 32.

[3] *Aham*, 148 ; S. Krishnaswamy Aiyangar, *Ancient India and South Indian History and Culture*, Vol. I, p. 775.

[4] Charlesworth, *Trade-route and Commerce of the Roman Empire*, p. 62.

[5] *Loc. cit.*

[6] *Dion Cassius*, LXVII, 28 ; Rawlinson, *op. cit.*, p. 128 ; Wheeler, *op. cit.*, p. 134.

[7] *The Oxyrhynchus Papyri*, III, No. 413. pp. 41-55.

Hultzsch[1] has recognised the trace of Kannaḍa language in the dialogue of the local people and concluded that the site of Charition's adventure is one of the numerous small ports on the Western Coast of India between Karwar and Mangalore.

The epigraphic notices regarding the presence of the Yavanas in the Cis-Vindyan region are further evidences about the close Indo-Roman contact. Many of them, referred to in the inscriptions, or their forbears no doubt had come from cities in the former Indo-Greek kingdom further north, but the fact that a considerable section of them came directly from the west in pursuance of trade and established factories in the important trading centres of S. India cannot be denied. The *Śilappadikāram*[2] speaks of the foreign merchants who had left their native homes and settled in the sea-port towns of South India. The same work also refers to the abodes of the Yavanas, 'whose prosperity never waned', in the harbour of Puhar.[3] Ptolemy apparently got his information of the geography of India from persons who had resided in India.[4] Daṇḍin speaks of the Yavana merchant Khanati who was dealing in precious stones.[5] The discovery of a western trading centre at Arikamedu[6] within a few hundred yards of the Bay of Bengal and two miles south of Pondicherry, confirms the literary evidence. Several inscriptions at Karle,[7] by way of recording the gifts of the Yavana residents of Dhenukākaṭa suggest that, beside Puhar or Arikamedu in the Far South, a Graeco-Roman colony was also established at Dhānyakaṭaka.

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[1] '*Remarks on a papyrus from Oxyrhynchus*', *JRAS*, 1904, pp. 399-405. Burnett (*Jour. of Egyptian Arch.*, Vol. XII, 1926, pp. 13-15), however, is very sceptical about Kannaḍa words in the said papyrus. O. Stein (*Indologics Pragnosia*, Vol. I, pp. 41f.) thinks that the so-called Kannaḍa words are at least in part Greek words deliberately distorted to produce the impression of a foreign speech. For Contra. see K.A. Nilakanta Sastri, *The Cholas*, Vol. I, p. 620 ; *Mys. Arch. Rep.*, 1926, pp. 11-21 ; Saletore, *Anct. Karnataka*, Vol. I. pp. 584-97.

[2] Ed. V.R. Ramachandra Dikshitar, p. 128.

[3] *Ibid.*, p. 110.

[4] *IHQ*. Vol. II, p. 461.

[5] *Daśa.*, Ch. III, Kale's trans. p. 86.

[6] 'Arikamedu, An Indo-Roman Trading Station on the Coast of India,' *Anct. Ind*, (1946), No. 2, pp. 17ff.

[7] Lüders' List, No. 1093 ; *EI*, Vol. XVIII. Karle inscriptions, Nos. I, IV, VII and X.

The growing interest of the Mediterranean merchants in Indian trade resulted in the production of the *Periplus Maris Erythraei*, a "plain and painstaking log of a Greek in Egypt, a Roman subject, who steered his vessel into the waters of the great ocean and brought back the first detailed record of the imports and exports of its markets, and of the conditions and alliances of its peoples. It is the only record for centuries that speaks with authority on this trade in its entirety, and the gloom which it briefly lighted was not lifted until the wider activities of Islam broke the time-honoured custom of Arab secrecy in trading, and by grafting Arab discovery on Greek theory, laid the foundation of modern geography. Not Strabo or Pliny or Ptolemy, however great the store of knowledge they gathered together, can equal in human interest this unknown merchant who wrote merely of the things he dealt in and the peoples he met . . . '[1]

With great care, the *Periplus* catalogues the port-towns on the Red Sea and the Persian Gulf, which were centres of Indian trade. It records how ships loaded with local products from Africa and Barygaza made voyage to the market towns on the Somali Coast, 'and others exchange their cargoes while sailing along the coast'.[2] The ports on the Arabian coast, crowded with Arab shipowners and sea-faring men, were also great centres of Indian commerce. From these ports merchants are said to have carried on a trade with the far-side coast, and with Barygaza, sending their own ships there.[3] We are further informed that ports on the Persian Gulf, *viz.*, Apologus and Ommana were also visited regularly by ships from Barygaza.[4]

In a list of articles exported from Barygaza to the Western markets, the *Periplus* includes spikenard, costus, bdellium, ivory, agate, carnelian, lycium, cotton cloth of all kinds, silk cloth, mallow cloth, yarn, long pepper and 'such other things as are brought here from the various market towns.'[5] It is reported that, from Paethana, carnelian in great quantity and, from Tagara, much common cloth and mallow cloth, and other merchandise brought there locally from the regions along the eastern coast were carried to Barygaza obviously for their export to the west.[1] During the time of the *Periplus*, the Central Asian trade route was violently dislocated by the frequent political disturbances and, therefore, raw silk, silk yarn and silk cloth from China were exported to the west through Barygaza.[2]

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[1] Schoff, *op. cit.*, p. 7.

[2] Sec. 14.

[3] *The Periplus*, Secs. 21, 27.

[4] *Ibid.*, Sec. 36.

[5] *Ibid.*, Secs. 48, 49.

Of the articles exported from India, the ports on the Berber Coast received a great quantity of cotton cloth, the broad cloth called *monache* and that called *sagmatogene* and a few muslins from Ariaca.[3] Cotton was also exported to the market towns on the Somali Coast from Ariaca and Barygaza,[4] and to Dioscordia from Damirica and Barygaza.[5] The *Periplus* says that the Red Sea ports imported from Ariaca and Barygaza girdles, clarified butter, sesame oil, honey from the reed called *sacchari*, coats of skin and coloured lac.[6] To Malao, an important mart on the Red Sea, was exported *machir*, an aromatic and medicinal bark.[7] Wheat and rice constituted two other major articles to be imported from Ariaca, Barygaza and Damirica to the Somali coast.[8] A few female slaves were also brought to Dioscorida from Damirica and Barygaza.[9] The *Periplus*[10] further records that if the season was late the Arab merchants returning from Damirica and Barygaza wintered at Moscha, a harbour on the Arabian Peninsula, and exchanged the goods, *viz.*, cloth, wheat and sesame oil, which they brought from India, for frankincense. To the markets on the Persian Gulf, particularly Apologus and Ommana, regularly came ships from Barygaza carrying sandalwood and logs of teak-wood, blackwood and ebony.[11] As to metal, Indian steel and iron were exported from Ariaca to the Somali Coast and thence to Egypt.[1] Indian iron was famous in the Western market from early times. The chisels that drilled the granite of the Egyptian obelisks are said to have been of Indian origin.[2] Ships from Barygaza loaded with copper also came to the Persian ports regularly.[3] As regards precious and semi-precious stones, murrhine vases and other articles, according to Pliny,[4] were highly prized in Rome from the time of Pompey's Asiatic conquests. Indian onyxes, sent to foreign markets, were, says Pliny,[5] the most excellent after those found in Karmania. The classifications of the Indian onyxes made by Zenothemis and Sotones show the close acquaintance of the Romans with this stone.[6] The same is true with regard to sardonyx, described vividly by Pliny.[7] Opal, in which India enjoyed a monopoly,[8] attained an extraordinary value in the eyes of the Romans. This is clearly suggested by Pliny who says that Anonius the Triumvir proscribed, on account of an opal, the senator Nonius, the son of Struma Nonius. The latter took, in spite of the Triumvir, of all his treasures, this opal-ring away in his flight, and its value amounted, according to the most probable computation, to 2, 600,000 sesterti.[9] Probably this extraordinary value was attributed by opulent Romans on account of its wonderful play of colours, of which the author of the *Natural History* had himself been witness.[10] Besides opal most beryls came to Europe from India.[11] The Thana ports seem for long to have sent westwards another precious stone, generally called emerald, but which may have been a Golconda diamond, or may have included several kinds of stone.[12] This was famous as the

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[1] *Ibid.*, sec. 51.

[2] *Ibid.*, sec. 64.

[3] *Ibid.*, sec. 6.

[4] *Ibid.*, sec. 14.

[5] *Ibid.*, sec. 31.

[6] *Ibid.*, secs. 6, 14.

[7] *Ibid.*, sec. 8.

[8] *Ibid.*, secs. 14, 31.

[9] *Ibid.*, sec. 31.

[10] Sec. 32.

[11] *The Periplus*, sec. 36. Virgil (*Georgies*, II. 116-17) says, "India alone produces ebony".

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[1] *The Periplus*, sec. 6.

[2] Shaw, *Egypt*, p. 364 ; *BG*, Vol. XIII, Part II, p. 416.

[3] *The Periplus*, sec. 36.

[4] *Nat. Hist.*, XXXVII. 7, 8.

[5] *Nat. Hist.*, XXXVI, 12, 2 ; XXXVII, 23, 122.

[6] Lassen, *History of Indian Commerce* (trans. by K.P. Jayaswal and A. Banerji Sastri), *JBORS*, Vol. X, p. 242.

[7] *Nat. Hist.*, XXXVI, 23, 2.

[8] *Ibid.*, XXXVII, 21, 1f.

[9] *JBORS*, Vol. X, p. 243.

[10] *Nat. Hist.*, XXXVII, 22, 1f.

[11] *Ibid.*, XXXVII, 28, 1f.

[12] *BG*, Vol. XIII, Part II, p. 416.

Sopara stone. Pliny has a *Lithos Kallianos*,[1] the name suggesting that it may have been the Sopara stone whose place of export may have changed to Kalyāṇa.[2] From the report of the Alexandrian merchant and from the Roman Code of laws, it appears that diamond, the costliest of all gems, were brought from India to the Roman empire.[3] The agate and carnelian beads, discovered in large number in Sudan[4], were proved to be of Indian origin, and seem to have been exported from the Cambay ports. The *Periplus* refers to the export of agate and carnelian from Barygaza. Schoff[5] suggests that 'onyx stone' of the *Genesis*, II. 12, which reached the ancient world through the 'land of Havilah' on the Persian Gulf, was the Cambay agate. In the book of *Ezekiel*, XXVII. 16, we have also probably a reference to the agate that had come from India overseas the Persian Gulf to Aleppe. Schoff[6] points out that murrhine, which first became known to the Romans after the conquests of Pompey in Asia, was in all likelihood the Cambay agate. One piece of murrhinum, out of which only three goblets could be manufactured, each of the size of a *sextarius* containing the 48th part of an amphora, was, according to the various readings of the manuscript of the *Natural History*, sold for 70,000 sestertii or for 70 talents.[7] There is an apparent allusion to these murrhinum vessels in Philostratus' *Life of Apollonius of Tyana* written in 217 A.D. : "Now the precious stones imported from India are employed in Greece for necklaces and rings because they are so small ; but among the Indians they are turned into decanters and wine coolers, because they are so large, and into goblets of such size that from a single one of them four persons can slake their thirst at mid-summer."[8]

Summarising the Roman evidence about the Indian commodities brought to the Levant markets, Warmington writes : "We find (in the Augustan literature) Indian lions, tigers, rhinoceroses, elephants and serpents already brought for exhibition, though rarely; Indian parrots kept as pets,[1] Indian ivory and tortoise-shell employed for all kinds of ornaments; oriental pearls and Chinese silk worn by women; again, Celsus and Scribonius Largus reveal the use of Indian plant-products in Graeco-Roman medicine . . . we find aromatic spices and juices such as Indian pepper, spikenard, cinnamon in common use . . . and in medicine; besides these, Indian ginger, bdellium-myrrh, sugar and aloes; again, we find gingelly oil as a food, indigo as a paint, cotton used for clothing, ebony for furniture, rice as a cereal, and citrons, peaches and apricots as table-fruits or medicines. Again, in Augustan literature, Pliny's accounts and extant connections shew the already wide use of Indian precious stones— diamond, onyx, sardonyx, agate, sard, carnelian, crystal, amethyst, opal, beryl, sapphire, ruby, turquoise, garnet and others."[2]

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[1] Vincent, *Commerce of the Ancients*, Vol. II, p. 731.

[2] *BG*, Vol. II, Part II, p. 416.

[3] *JBORS*, Vol. X, p. 248.

[4] Arkel, 'Cambay and the Bead Trade', *Antiquity*, Vol. X, p. 292.

[5] Schoff, p. 194.

[6] *Loc. cit.*

[7] *JBORS*, Vol. X, p. 279.

[8] BK. III, Ch. 27 ; Loeb ed., Vol. I, p. 291 ; *Antiquity*, Vol. X, p. 299.

The extant evidence of the import of Indian objects in the Old Roman empire, however, are very few, obviously owing to their impermanent nature. The best of the rare survivors is the ivory statuette of Lakshmī, the Goddess of Fortune, found at Pompei and, therefore, brought there prior to 79 A.D.[3] It is a beautiful specimen of Indian art probably belonging to the Kushāṇa school of Mathura and may well have found its way out of India through Barygaza.

While India exported a variety of commodities to the foreign markets, her own demand of the exotic products was very limited. The *Periplus*[4] says that to Barygaza came Italian,

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[1] A silver dish found at Lamsacus, partly inlaid with gold and partly enamelled, figures a personification of India surrounded by a group of Indian animals— a parrot, a guinea hen and two pet monkeys. Under her feet are two Indians leading a pet tiger and pet panther. H. Graeven (*Jahrb*, 1903, p. 103) ascribes the dish to the early Byzantine period. Rostovtzeff (*Social and Economic History of the Roman Empire*, 2nd ed., p. 132) ascribes it to a much early date, in the 2nd or 3rd century A.D. It is possible that the animals represented on the dish formed the chief objects of trade by the land route from India to the Roman Empire (K.A. Nilakanta Sastri, *The Cholas*, 2nd ed., p. 87).

[2] Warmington, *op. cit.*, p. 40, quoted by Ghoshal in *The Comprehensive History of India*, Vol. II, p. 443n.

[3] A Mauiri, 'Statuetta eburnea di arte indiana a Pompei' *Le Arti* (Florence), 1938-39, pp. 111-15; Wheeler, *op. cit*, p. 135.

[4] Sec. 49.

Laodicaean and Arabian wines, the first being highly preferred. The poet Nakkirar addresses the Pāṇḍya prince Nan Māran : 'O Māra, whose sword is ever victorious, spend thou thy days in peace and joy, drinking daily out of golden cups, presented by thy handmaids, the cool and fragrant wine brought by the Yavanas in their good ships.'[1] From the Persian Gulf, large quantities of dates were exported to the same port. Among drugs and spices Barygaza imported storax and sweet clover. Storax was probably derived from the sap of a tree native to Asia Minor. Sweet clover, used for making chaplets and perfumes and medicines, was imported from Campania in Italy, Cape Sunium in Greece, and from Chalcidice and Crete. Pliny notes[2] that in his time there was a demand for chaplets imported from India. It is not unlikely that the sweet clover might be intended for the manufacture of chaplets for re-exportation to Rome.[3] Of the textiles, 'clothing after the local fashion' was sent from the Persian Gulf to Barygaza which also imported 'thin clothing and inferior sorts of all kinds' of which the source is unknown. As to the minerals, realgar (red sulphide of arsenic) and antimony (sulphide ore) found their way to Barygaza. The former was shipped from various Persian Gulf ports. Pliny[4] says that mines of arsenic were worked in Karmania. Antimony, which was made into ointments and eye-tinctures, reached India from East Arabia and Karmania. As regards metals, copper was exported probably from Karmania, tin from Spain by way of Egypt, lead from Luisitania and Galicia, and gold from the Persian Gulf. A great quantity of gold and silver coins was carried by Western merchants to Barygaza. The *Periplus* remarks that on this there was a profit when exchanged for the money of the country. The coins of the Roman empire carried some prestige with the Oriental customers. Pliny[5] tells a story of the admiration expressed by the king of Ceylon for Roman honesty, on the ground that, among money found on a Roman cast away (Poclamus' famous freed man), the *denarii* were all equal in weight, although the various figures on them showed that they had been coined by several emperors.[1] Perhaps for the Bhils working in the carnelian mines bright coloured girdles were imported through Barygaza. As for stones, topaz came to Barygaza from Ethiopia and the Red Sea islands. According to Strabo, it was a transparent stone that sparkled with a golden lustre.[2] Of the animal products brought to the Deccan ports, the *Periplus* refers to pearls of inferior quality, purple, tortoise-shell and coral. The first two were shipped from the Persian Gulf. The Bahrein pearls, though a bit yellowish than those of the Mannar fisheries, hold their lustre better and as such are always in demand in India. Purple, a kind of dye derived from various species of Nurex, was 'greatly sought after for the purpose of dying cloth'. Part of this purple dye was probably obtained from Tyre, which produced the best variety in Asia. A great quantity of tortoise-shell was brought by the merchants of Damirica and Barygaza from Socotra in return for their merchandise. Coral, however, occupied a prominent place among the animal products of western origin. Pliny[3] says that coral was as highly prized by the men of India as the Indian pearls by Roman women. The coral imported into India was probably the red variety of the western Mediterranean and not the black one found in abundance in the Red Sea and along the Arabian coast. Flint glass constituted another commodity of import to Barygaza, which also received slaves from the Persian Gulf. Mention may be made in this connection that singing boys and beautiful maidens were regularly imported to Barygaza for the use of the kings. This suggests, as observed by Tarn,[4] a 'standing order' in the Indian markets for male and female slaves. Indian literature also indicates that Yavana or Greek girls were much in demand as royal attendants. Yavana girls appear in the dramas of Kālidāsa as attending to the personal wants of kings, and it is suggested that they saluted them with the word *xaīpe khaīre* or hail.[5] The king in the *Abhijñānaśakuntalam*[1] is accompanied by Yavana girls carrying bows and bearing garlands of wild flowers. In the dramatic works of Bhāsa and others also references to Yavanī attendants of the kings may be traced.[2] Female slaves belonging to a number of foreign lands (Pahalva, Yavana, Muruṇḍa and the like) are referred to in some Jaina texts of this period.[3] Besides slaves, Barygaza imported for kingly use very costly vessels of silver, fine wines, thin clothing of the finest weaves, and the richest ointments.

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[1] Kanakasabhai Pillay, *The Tamils Eighteen Hundred Years Ago*, p. 37.

[2] *Nat. Hist.*, XXI, 8.

[3] Schoff, *op. cit.*, p. 191.

[4] *Nat. Hist.*, VI. 26.

[5] *Ibid.*, VI. 85.

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[1] Wheeler, *Rome beyond the Imperial Frontier*, p. 141.

[2] *The Comprehensive History of India*, Vol. II, p. 446.

[3] *Nat. Hist.*, XXXI, 7 ; XXXII, 2.

[4] *The Greeks in Bactria and India*, p. 374.

[5] *IA*, Vol. II. p. 145.

The material remains of objects imported into India are not as scarce as the Indian articles in the west. Archaeological excavations at Arikamedu have brought to light numerous specimens of western origin.[4] Rouletted dishes of Mediterranean character have been found at Brahmagiri and Chandravalli in the Chitaldrug District. Maski, Mondapur, Amaravati and Sisupalgarh have also yielded sherds of the same ware. Red-glazed pottery of distinctly Mediterranean type has been discovered at Nasik.[5] From Nevasa in the Ahmednagar District have been collected fine red polished wares with sherds of the imported Mediterranean amphora. A few of these sherds appear to be definitely of Samian character. The same place further produced fine, translucent, light blue glass bangles and beads of western origin.[6] In a brick building of the middle of the 1st century A.D. at Kolhapur was found a bronze statuette of Neptune or Poseidon and a Roman bronze jug.[7] These examples are 'striking evidences of the trade which, as our historical authorities indicate, used a number of harbours on the Konkan Coast, south of Bombay . . . The statuette is of better quality than the average commercial product and, perhaps with the Harpocrates from Taxila, is the most noteworthy work of its kind from the East'.[8] During the excavations, conducted by the Baroda

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[1] Acts II and VI ; cf. also *Vikrama*. V. 13.

[2] *The Comprehensive History of India*, Vol. II, p. 444.

[3] *Bhagavatī Vaihapannati*, 9, 6 ; *Nāyā Dhammakahayā*, i, 26.

[4] For a discussion of these specimens, see *Anct. Ind.*, 1946, No. 2, pp. 17ff.

[5] Wheeler, *op. cit.*, p. 152.

[6] *Ind. Arch.*, 1954-55— *A Rev.*, p. 7.

[7] Wheeler, *op. cit.*, p. 151.

[8] *Ibid.*, pp. 151f.

University, at the ancient site of Ankottaka (Akota) the bronze handle of a jug bearing the figure of Cupid has come to light. It compares closely with a similar jug from Hoby 'at the other end of the Roman map'. From Karvan in the old Baroda state has been recovered 'a cameo of exuberant sub-classical workmanship'.[1] The pillar of a ruined palace at Nagarjunakonda represents a male figure nude down to the waist and holding a drinking horn (rhyton) in his left hand. Standing on the ground near his left foot is a wine jar covered with an inverted drinking cup. The figure seems to be meant for a crude representation of Dionysius. The very active sea-borne trade between the Roman empire and South India in the early Christian era, may account for the presence of this figure which was obviously copied from some classical examples.[2] The discovery, from the territory of the Andhras, of actual specimens of Roman coins and their imitations, made locally as ornaments and mostly pierced or looped for suspension is further evidence of such contact.[3] Lastly, we may refer to the Alluru inscription which includes in a list of gifts made by a certain *Mahātalavara*, *vadālabhikārokaroḍiyo ya*[*na*]*kadīvikāyo*, *i.e.*, lamps of the shape of the mouth of a *vadāla* fish, manufactured by the Yavanas.[4]

In the commerce between India and the Roman empire, the latter always suffered an adverse balance of trade. In order to meet the deficit, a great quantity of gold and silver coins was transported to India. In the *Periplus*,[5] gold and silver coins occur as objects imported to Barygaza. An early Tamil poet, Erukkāṭṭur Tāyaṅgaṇṇanār, records that the Yavanas brought gold in large ships to the Malabar ports and returned with pepper.[6] Pliny[7] laments, "At the lowest reckoning one hundred million sesterces are taken from us every year by India, the Seres and Arabia."

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[1] Wheeler, *op. cit.*, p. 152.

[2] *MASI*, 1938, No. 54, p. 11 & Pl. X (d).

[3] Wheeler, *op. cit.*, pp. 152f.

[4] *Suc. Sāt*, p. 330n2. Fragments of Roman lamps were found at Arikamedu, see *Anct. Ind.*, No. 2, p. 101.

[5] Sec. 49.

[6] *Akkam*, 148, tr. Kanakasabhai Pillay, *The Tamils Eighteen Hundred Years Ago*, p. 11.

[7] *Nat. Hist.*, XII, 41, 18.

"This was the price," remarks Pliny, "we pay for our luxuries and our women". Gibbon[1] reckons the amount as "upwards of 800,000" ; and in a note he adds "in another place Pliny gives half that sum *quingenties H.S.* for India, exclusive of Arabia". Tiberius evidently referred to this extravagant efflux when he complained to the Roman Senate in 22 A.D., that the empire was being drained of its treasure by the foreign lands in exchange for gew-gaws.[2] The presence of hundreds and thousands of Roman coins on Indian soil gives us some idea about the heavy drainage of the imperial treasury caused by Indian trade.[3] Writing as early as 1904 Sewell[4] says, "In Southern India, we have in actual number 612 gold coins and 1,187 silver, besides hoards discovered." These have been severally described as follows :[5]

Of gold coins, "a quantity amounting to five cooly-loads" ; and of silver coins (1) "a great many in a pot", (2) "about 599 in an earthen pot", (3) "a find of 163", (4) "some", (5) "some thousands" enough to fill "five or six Madras measures", *i.e.* perhaps a dozen quart measures ; also (6) of metal not stated, "a pot full".

On the evidence of these coins, Sewell[6] defines five periods in the history of Indo-Roman trade. According to him, there was hardly any commerce between Rome and India in the years preceding the reign of Augustus. With Augustus began the great period of this trade which, stimulated by the discovery of Hippalus, continued down to Nero. During this period there was a great demand for pepper, spices, fine muslins, perfumes, unguents, pearls and precious stones in western markets. Since the death of Nero in 68 A.D., the trade began to decline till the death of Caracalla in 217 A.D. Commerce in this period was confined only to cotton and industrial products owing to little or no demand for luxuries. After Caracalla, the trade appears to have ceased almost entirely as a result of anarchy in the Roman empire. Business relations were not resumed till order and a stable gold currency had been re-established in the Byzantine period. But then also the trade relation was confined mostly to Travancore and the south-west coast. Some scholars,[1] however, do not agree with the findings of Sewell as regards the condition of trade in the periods subsequent to the first century A.D. for they are based merely on negative evidence and, beside coins referred to by him, others are known and many are undoubtedly hidden underground. Cunningham[2] says, "Roman gold coins are plentiful down to the time of Severus and Caracalla (217 A.D.). They then disappear until the time of Justin (526 A.D), Marcian (450 A.D.), Leo (474 A.D.) and Anastasius (491-518 A.D.)." A coin belonging to Commodus (180-93 A.D.) and an imitation of a coin of Maximinius (235-244 A.D.) have been discovered at Bilaspur.[3] According to Wheeler,[4] that the Indian trade continued or even increased after the time of Nero may be gathered from Ptolemy's *Geography* and from the archaeological evidence of Arikamedu. Majumdar points out that beside the maritime trade, suggested by the Roman coins in South India, there was also a large volume of overland commerce which, in spite of the rise of the Parthian and Sassanid kingdoms, continued as an important factor for several centuries. It may be presumed that trade relation between India and the West was not very insignificant for we know that "silk, worth in Aurelian time its weight in gold, and a luxury of the rich and noble, was in the reign of Julian sold at a price which brought it within every man's reach".[1] Though much declined, the trade relation was maintained during the 5th century A.D., and when Alaric 'spared Rome in 408 A.D., he demanded and obtained as part of the ransom three thousand pounds of pepper'.[2] The continuance of this trade through Alexandria in the 6th century A.D., is proved by a Digest of Roman law[3] which in a list of dutiable articles at the said port includes Indian hair (*capilli Indici*), Indian iron not liable to corrosion, Indian perfume (*arma Indica*) pearls, sardonyx (?), *ceraunuim* (? a kind of onyx), jacinth, diamond, sapphire, turquoise, beryl, chelyniae (? tortoise shell), various Indian opiates, raw silk, silk or half-silk robes, silk yarn, Indian eunuchs, pardi (male panthers), leopards, panthers, cinnamon, long pepper, white pepper, costus, costamomum (an aromatic plant), *mardi stachys* (? a plant), ginger, malabathrum, cardamom, cinnamon-wood, ivory and probably cotton.

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[1] Quoted by Cunningham, *Coins of Ancient India*, p. 50. "The subject is one worthy of attention, there being no year in which India does not drain our Empire of at least 55,000,000 sesterces sending us in return wares which are sold for a hundred times their original value' (*Nat. Hist.*, VI. 23).

[2] Tacitus, *Ann.* II. 53 ; Wheeler, *op. cit.*, p. 141.

[3] The evidence of the *Hou-han-shu*, (partly written during the 5th century A.D, and embracing the period 25-220 A.D.) and the *Chin-shu* (mainly a repetition of that in the *Hou-han-shu*, and written before the middle of the 7th century A.D.) suggests that, in its commercial relation with India, the Western World always suffered an adverse balance of trade. Thus, while both the texts state that An-hsi (Parthia) and T'ien-chu (India) had trade with Ta-ts'in (Judaea, according to Ricci, *China Review*, Vol. IV, p. 391) by sea, the former calculate the profit of this traffic as ten fold and the latter hundred fold. See Hirth, *China and the Roman Orient*, pp. 42 and 45.

[4] 'Roman Coins found in India', *JRAS*, 1904, p. 591.

[5] *Ibid.*, pp. 599ff.

[6] *JRAS*, 1904, p. 593.

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[1] Majumdar in *The Age of Imperial Unity*, p. 623.

[2] *JASB*, 1889, p. 149, quoted by Majumdar, in *The Age of Imperial Unity*, *loc. cit.*

[3] *JNSI*, Vol. V, p. 171.

[4] *Op. cit.*, p. 141.

The political confusion at home, however, did not allow the Roman merchants to trade with India with the zeal and vigour of the 1st and 2nd centuries A.D. As a result, the Indian trade gradually began to concentrate in the hands of the Persians, who practically swept the Roman merchants off the Indian Ocean since the 4th century A.D. The connection between India and the Persian Gulf seems to have been of a long standing and even anterior to her relation with Arabia and Africa. Babylonian tradition opens with the reference to a race that came from the southern sea, a people who brought the Babylonians their gods, and who taught them the arts. According to one account these teachers came from Egypt; according to another the chief teacher was Andubar the Indian.[4] At the close of the 7th century B.C., Nebuchandnezar (606-561 B.C) built quays and embankments of solid masonry on the Persian

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[1] Pariaulx, *The Indian Travels of Apollonius of Tyana*, p. 252 ; also *The Age of Imperial Unity*, pp. 623f.

[2] *JRAS*, 1904, p. 607.

[3] *Digestae* XXXIX, 4, 16, 7 ; Schoff, *op. cit.*, p. 289 ; also Maity, *Economic Life of Northern India in the Gupta Period,* p. 136.

[4] *JRAS*, *NS*, Vol. XII, 1880, pp. 201-208, 218 ; *BG*, Vol. XIII, Part II p. 405.

Gulf, and traded with Ceylon and Western India.[1] According to Reinaud,[2] the Persians took a great part in oriental navigation under the Arsacid or Parthian dynasty. We have already taken into account the notices of the Classical writers referring to the Indo-Persian trade during this period. For purposes of trade, the Hindus began to settle at Palmyra and, in 273 A.D., when Palmyra was sacked, Indians swelled the train of captives who graced Aurelian's triumph.[3] The presence of the Indians in Persia is also suggested by the ruins of the Hall at Hatra, which have several points of likeness to Western Indian cave temples, *viz.*, semicircular vaulted roofs, no windows, the light coming from an archway at the east end and a number of small rooms opening from a central hall.[4] Like the Indians, the Parthian or Persian merchants came to settle on the western coast of India. Their rank no doubt swelled up as a result of the extension of the Parthian rule in India. The great rock temples in and near the Thana District, belonging to periods both before and after Christ, seem to have been planned and sculptured by Parthian or Persian artists. Harapharaṇa of Abulāmā, whose name appears in one of the Karle inscriptions,[5] was probably a Parthian or Persian. The animal capitals at Karle, Bedsa and Nasik showing close resemblance with those at Susa and Persepolis prove an intimate intercourse with Persia and the Deccan in the early Christian era.

During the Sassanid period (230-650 A.D.), Persia intensified her trade with India. Amianus Marcellinus[6] reports in the second half of the 4th century A.D. that Indian wares were sent to the great annual fair at the mart of Batne near the Euphrates. In the 5th century A.D. as it appears from the account of Hamza of Ispahan, the ships of India and China could be seen constantly moored at Hira, near Kufa, on the Euphrates.[7] The embassies sent to the rulers of South India during the reign of Naushirvan (531-578 A.D.) gave further impetus to the already existing trade. Tabari's account shows that an embassy from Pulakeśin II was received by Khusru Parvīz.[1] The intercourse between India and Persia is moreover suggested by the fact that it was under the Sassanids that the Persians received chess and the *Arabian Nights*' tales from India.[2]

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[1] *BG*, Vol. XIII, Part II, p. 405.

[2] Abul-fida, LXXVII ; *BG*, Vol. XIII, Part II, p. 411.

[3] *BG* Vol. XIII, Part II, p. 413.

[4] *Loc. cit.*

[5] *ASI, AR*, Vol. X, p. 36 ; Lüders' List, No. 1106.

[6] XIV, iii. 33 ; *The Classical Age*, p. 627.

[7] Yule, *Cathay and the Way Thither*, Vol. I, p. LXXVIII ; Mookerji, *op. cit.*, p. 118.

While the wealth of India attracted the European, Egyptian, Arab and Persian merchants from the remote past, India's *El Dorado* lay in the Far East "where tradition had located the 'golden' Burma and Sumatra, 'silver' Arakan, and 'copper' Champa (Indo-China)". Direct or indirect reference to adventurous sailing for South East Asia from the busy ports of India is borne out by the *Periplus*, Ptolemy's *Geography*, the Chinese annals, Indian literary references, the archaeological remains of the East Indies and the inscriptions of those parts.

Traditions preserved in the Javanese literature give interesting accounts about Indians coming to their land. According to one such legend, a band of Hindu navigators sailed from Kaliṅga and reached Java in 75 A.D. The adventurous navigators planned a colony, built towns and cities and developed a trade with the mother country.[3] The brilliant role of the men of Kaliṅga in the diffusion of Hindu civilisation is attested to by the application of the name Kaliṅga to the Indians throughout the Malay world.[4] It may be noted in this connection that the Chinese applied the name Ho-ling (Po-ling, Kaliṅga) to Java.[5]

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[1] *JRAS*, 1879, p. 165 ; *FNSI*, p. 9.

[2] According to some, painting in the ceiling of Cave I at Ajanta portrays the Persian king and his queen Shirin and another on the wall of the front aisle depicts the scene of Persian embassy at the court of king Pulakeśin II. But others do not find any representation of the Persian king and queen and Persian embassy in the said paintings. For different views see *Journ. of the Hyderabad Arch. Soc.*, 1919-20, pp. 99-100 ; Yazdani, *Ajanta*, Part I, pp. 46-9 ; *JBRS*, Vol. XXX, pp. 1ff ; *JIH*, Vol. IV, pp. 29ff.

[3] Reinaud, *Memoir sur L' Inde*, p. 135 ; *BG*, Vol. XIII, Part II, p. 419.

[4] See Elphinstone, *History of India*, Cowell's edition, p. 185 ; Mookerji, *op. cit.*, p. 104. Harekrushna Mahtab (*Lectures on the History of Orissa*, p. 38) refers to a legend according to which the king of Kaliṅga sent twenty thousand families to Java.

[5] *PHAI*, p. 305, n. 2.

The dominant role of the eastern sea-board in the colonial and commercial activities is proved by other evidences also. Thus, the foundation of Ligor in Malay Peninsula is ascribed by tradition to a descendant of Aśoka who fled from Magadha, embarked a vessel at Dantapura, and was wrecked on the coast of Malay Peninsula.[1] According to traditions current in Pegu, Hindu colonists[2] from the country of the lower courses of the Kṛishṇā and the Godāvarī had at a remote time crossed the sea and formed settlements in the delta of the Irawadi and on the adjoining coast.[3] Ptolemy[4] says that vessels sailed from a point of departure (*apheterion*) near Paloura in the Ganjam region, and striking right across the sea called at Sada and Tamale in the Silver country (Arakan ?) on the way to the Chryse Chersonese. Archaeological evidences about the movement of Indians from the Andhra coast to South East Asia are not lacking. An inscription[5] from the ruins of a temple in the village of Myson records, in the Indian manner, an *akshaya-nīvi* grant to Bhadreśvara of the entire valley enclosed by three mountains in which this temple is located. The language of the record is faulty Sanskrit, and one peculiarity in the orthography, in the opinion of Nilakanta Sastri,[6] suggests the original home of the colonists in the Andhra country. Here *prithivī* is written for *pṛithivī*, and *dushkritam* for *dushkṛitaṁ*, and, according to Nilakanta Sastri, even now these words are pronounced in the Telugu-speaking area in the same way as they are found in the Myson record, though sometimes an *u* sound takes the place of the infixed *i*. But the box-headed character of the letters and the use of the Śaka era in this inscription, besides the fact that the peculiarities suggested by Nilakanta Sastri are found in many inscriptions coming from other regions, make the Andhra origin of the donors less likely. Even then, however, the Buddha images of the Amaravati style found in many places of the Eastern Archipelago testify to a regular movement from the Telugu country in that direction. We have a bronze image from South Djember, another from Sikendeng on the west coast of Celebes and a colossal stone Buddha from Bukit Seguntung at Palembang "all in the characteristic Amaravati style, even the differences noticeable among them exactly reproducing similar differences in the Amaravati images."[1] Buddha of the same school has been found at Sampaga, also in Celebes.[2] While there is a chance of the bronze images being imported or brought from Amaravati by the colonists, it is certain that the large stone Buddha of Palembang was locally made by an artist who belonged to the Amaravati school. Similar statues have also been found in other South East Asian countries, *viz.*, at Jamber in Eastern Java,[3] in Siam, Kambuja and Annam.[4] It is significant that Dong-duong in Champa not only presented us with a fine bronze Buddha[5] in true Amaravati style but the place itself was known as Amaravati.

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[1] Takakusu, *A record of the Buddhist religion as practised in India and the Malaya Archipelago*, p. XLVII ; Raychaudhuri, *loc. cit.*

[2] Majumdar, *Ancient Indian Colonisation in South East Asia*, p. 32.

[3] *Ibid.*, p. 10.

[4] Majumdar-Sastri, *op. cit.*, p. 66.

[5] *BEFEO*, Vol. II, p. 187.

[6] *South Indian Influences in the Far East*, p. 52.

It follows from what has been said above that from the Andhra coast a considerable number of Indians went to explore South East Asia. But this fact does not allow us to conclude that alone "from the mouths of the Kṛishṇā and Godāvarī the Buddhists of North and North-West India colonised Pegu, Cambodia, and eventually the island of Java",[6] or to say that "the Hindu settlement of Sumatra was almost entirely from the east coast of India . . ."[7] Some tribal names of Central Sumatra, *viz.*, Choliya, Pandiya, Meliyala, Berahman, Tekang and Pelavi corresponding respectively to Chola, Pāṇḍya, Malayāḷam, Brāhmaṇa, Dakkhan (Deccan) and Pallava,[8] prove the movement from eastern and western coasts of Peninsular India alike. According to one tradition, Aji Śaka, the chief minister of the ruler of Astin or Hastināpura, landed about 75 A.D., in the demon-infested land of Java and introduced therein Indian alphabet and the Śaka era. In a later version of this story, Aji Śaka has been described as an inhabitant of Gujarat.[1] The Javanese chronicles also record the story of a ruler of Gujarat, who with his son and five thousand followers including cultivators, artisans, warriors, physicians and writers, settled in Java.[2] Direct voyages from Bhṛigukachchha to the East Indies, seems to have been taken from very early times. This is borne out by the stories of the voyages of daring merchants from this port to Subarṇabhūmi or Suvarṇadvīpa in the Jātakas[3] and the *Avadānaśataka* as well as in the great collections of folklore (*Bṛihatkathā-mañjarī*, *Bṛihatkathā-śloka-saṁghraha*, *Kathāsarit-sāgara*) going back to the lost work of Guṇāḍhya.[4] The Chinese writers refer to the voyage of a merchant of western India to Fu-nan (Cambodia with Cochin-China) in the reign of king Fan-Chau (*c*. 225 A.D.). This was followed by the latter's embassy to India and *vice versa*.[5] The appearance of the name Karṇāṭaka in a list of people who regularly visited Java during the reign of Airlaṅgga (1019-1042 A.D.)[6] is another evidence of the participation of the inhabitants of the western Deccan in the maritime trade with South East Asia. It is surprising that in the maritime itinerary of the Pali *Niddesa*, which extends from the Far East to the Far West, the eastern coast of India, with the doubtful exception of Vaṅga, does not figure at all. If we take Vaṅga as a copyist's error for Banka island, which in all probability is the case, then it may be said that, at the time of the compilation of the *Mahāniddesa*, the sailors made a direct voyage from the Far East to Suppara, Bharukachchha, Suraṭṭha and other places on the western coast only touching Ceylon on their way. Lévi,[7] therefore, says, "it was from these ports and specially from Sūrpāraka, as I expect to prove later on, that the vessels of Indian merchants used to sail for the Land of Gold *via* Ceylon, leaving aside the eastern coast of India as done also by the list of the *Niddesa*." Lévi's contention seems to be fully justified in the light of other evidences. Sircar[1] has pointed out that the early inscriptions discovered in the countries of Indonesia and Indo-China are in the late Brahmi common to the southern and western parts of India. Bergaigne[2] has compared the inscription of Vo-Canh with the script of the Girnar inscription of Rudradāman and contemporary Sātavāhana inscriptions at Kanheri. As to other points of resemblance, Sircar says that these inscriptions are mostly written in verse like the epigraphs of the early Kadambas. The box-headed alphabet used in the inscriptions of king Bhadravarman of Champā (South Annam) is characteristic of the epigraphs of the Vākāṭakas of Central India and the upper Deccan, and may also be found in the records of 'Kannaḍa-speaking western regions of South India'. These facts go against the plea of some scholars that the Indo-Aryan culture spread to the lands beyond the Bay of Bengal mainly from the Coromandel coast during the Pallava period.[3] Besides, "the Śaka era introduced in South East Asia in Indo-China and Indonesia about the 6th century A.D., was never used in the inscriptions of the Pallavas, and it was the Chālukyas of Bādāmi (from the 6th to the 8th century), who were responsible for the association of the name Śaka with the said era and the popularity of its use in the present Kannaḍa and Marathi-speaking areas."[4] Moreover, the name Kaṅgavarman found in the Phnom Bayang inscription of Bhavavarman II of Kambuja[5] reminds us of such personal and geographical names as Kaṅguvarman, Koṅgaṇi, Koṅgudeśa, Koṅgi-nagara found in the southern part of the Kannaḍa-speaking area and its neighbourhood.[6] These are clear indications of the maritime ventures of the Karṇāṭakas and other inhabitants of the Western Deccan in South East Asia. We should also note that Śrīkshetra, the kingdom of Prome, was known as Vanavāsi,[1] which reminds one of the Kadamba city in the western part of Southern India. The excavation at a site known as Khin-bha-gon near the Kalagangen village in Burma has brought to light a silver gild hollow *stūpa*, on the rim of the lid of which is a line of inscription, in the early Telugu-Kannada script.[2] According to a Javanese tradition contained in the *Nagarakṛitāgama* (composed in 1365 A.D.), Majapahit (the medieval capital of Java founded by Vijaya) had trade relations with Jambudvīpa, Chīna, Karṇāṭaka and Gauḍa.[3] The specific mention of Karṇāṭaka and Gauḍa by the side of Jambudvipa, *i.e.*, India, implies that of all places in India, these two maintained a more intimate relation with Java.

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[1] *Ibid.*, p. 119.

[2] Majumdar, *op. cit.*, p. 35.

[3] *Ibid.*, p. 34.

[4] Nilakanta Sastri, *op. cit.*, p. 119.

[5] *Bulletin de la Commission Archaeologique de la Indo-Chine*, 1912, Plate IX ; pp. 211-12 ; *BEFEO*, Vol. XI, Figs., 42, 43, pp. 471-2 ; Vol. XXI, Pl. XI, Nilakanta Sastri, *op. cit.*, p. 53.

[6] Fergusson, *Indian Architecture*, p. 103.

[7] *BG*, Vol. I, Part I, p. 493.

[8] *JIH*, Vol. XLII, p. 412.

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[1] Raffles, *History of Java* (2nd ed.), pp. 87ff ; Krom, *Geschiedenis*, pp. 87ff ; *JIH*, Vol. XLII, p. 411.

[2] Mookerji, *op. cit.*, p. 105.

[3] *Jāt* , III. 360.

[4] *The Comprehensive History of India*, Vol. II, p. 447.

[5] *BEFEO*, Vol. III, pp. 227f ; *The Comprehensive History of India*. Vol. II, p. 446 ; also Finot, 'Hindu Kingdoms in Indonesia', *IHQ*, Vol. I. pp. 611f.

[6] Majumdar, *Suvarṇadvīpa*, Vol. I, p. 271 ; *JIH*, Vol. XLII, p. 413.

[7] *SIS*, Vol. II, p. 100.

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[1] 'Karṇāṭakas outside Karṇāṭa', *J. N. Banerjea Volume*, p. 217.

[2] *Inscr. Sanskrites du Champa et Cambodge*, XX; *BEFEO*, Vol. II, pp. 185 and Vol. XV, No. 2, pp. 3-5; Nilakanta-Sastri *op. cit.*, p. 49.

[3] Cf. *JRASB*, Vol. I (1935), pp. 1ff.

[4] *J. N. Banerjea Volume*, p. 218.

[5] *JGIS*, Vol. V, p. 156.

[6] *Ind. Ep.*, p. 202n.

We were so far concerned with the places which took the most vigorous role in conducting the overseas trade with South East Asia. As to the articles in which this trade was conducted, it may be presumed that minerals, metals and industrial and agricultural products with which the Indians generally associated the places beyond the Bay of Bengal constituted the main items of trade. Ghosal[4] says that such names as Suvarṇarūpyakadvīpa (island of gold and silver) or alternatively Suvarṇakuḍyaka (wall of gold) in the topographical lists of the *Rāmāyaṇa*, the *Rāmāyaṇa-mañjarī* of Kshemendra, and the *Harivaṁśa* as well as the Buddhist *Saddharmasmṛityupasthāṇasūtra*, reference to Golden Chersonese (Malay Peninsula), Island of Iabidios, (Sanskrit *Yava-dvīpa*), 'the island of Barley' as producing very much gold and silver its capital being called 'Silver-town' (Argyre) by Ptolemy[5] and to a silver country and a gold-country containing many silver and gold mines by the Greek geographer[6] in trans-Gangetic India just beyond the territory of the Kirātas

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[1] On a metallic image of the Buddha from Prome, there is an inscription which begins with *idam Vanavāsīraṭṭha-vāsinam pūjanat thāya*, meaning this is for the worship of the residents of the kingdom of Vanavāsi (*Archaeological Reports, Burma*, 1917, pp. 42-43 ; Nilakanta Sastri, *op. cit.*, p. 15).

[2] *ASI,AR*, 1926-27, pp. 171-183 ; Nilakanta Sastri, *op. cit.*, pp. 15f.

[3] Majumdar, *op. cit.*, p. 54.

[4] *The Comprehensive History of India*, Vol. II, pp. 447f.

[5] VII. 2. 5, 29.

[6] VII, 2, 17.

(in the Malay Peninsula ?), which may be the gold mines in the neighbourhood of the lower Ganges region referred to by the author of the *Periplus*[1] prove that it was the quest for gold that first and mainly drew Indian merchants across the seas to Indo-China and Indonesia. The great wealth of the South East Asian islands figures prominently in the Indian literature. We read in a passage of the *Brahmāṇḍa Purāṇa* that the islands of Yava and Malaya abound in mines of gold, jewels and treasures :[2]

> *Yavadvīpamiti proktaṁ nānāratnākarānvitam|*
> *tatrāpi dyutimānnāma parvvato dhātumaṇḍitaḥ||*
> *samudragāṇāṁ prabhavaḥ prabhavaḥ kāñchanasya tu||*
> *tathaiva malayadvīpamevameva susaṁvṛitam|*
> *maṇiratnākaraṁ sphītamakāraṁ kanakasya cha||*

The mention of Tāmradvīpa[3] as an island of the Eastern Archipelago suggests that copper was an item of trade. Ptolemy[4] says that a country in trans-Gangetic India, named Khalkitis, contained many copper mines. In the present state of our knowledge it is not possible to identify the place. Lévi[5] thinks that there is a vague reference to the Indian trade in tin with the Malay Peninsula and in black pepper with the neighbouring islands in Patañjali's commentary on Pāṇini. The names such as Yavadvīpa, Laṅkādvīpa, Śaṅkhadvīpa, Karpūradvīpa, Nārikeladvīpa etc., indicate the traffic in a great variety of agricultural products. The *Periplus*[6] informs us that the best tortoise-shell procurable in the Indian Ocean was found in the Chryse island (Malay Peninsula or Sumatra). This was brought to the Malavar coast for re-exportation to Western Asia and the African coast.

Ma Twan-lin[7] says, "Some of the Indians come as far as Fu-nan and Keaou-Che (Tonquin), to traffic in coral necklaces and pearls of inferior quality (or which only resemble pearls—*son-kan*) . . . Teeth (elephants' or rhinoceroses' ?) and shells form their articles of exchange". The occurrence of Tonquin as a port visited by Indian merchants in Ma Twan-lin's account shows that they extended their activities beyond Indonesia and Cambodia to China also. There is reason to believe that the maritime contacts between China and South India reach as far back as the 2nd century B.C.[1] A Chinese coin, most probably of the 2nd century B.C., was found at Chandravalli in Mysore.[2]

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[1] Sec. 63.
[2] *Brahmāṇḍa Purāṇa* (Cal. ed.), LII. 19-21 ; XLII, p. 405.
[3] *The Age of Imperial Unity*, p. 654.
[4] VII. 2. 20.
[5] *SIS*, Vol. II, p. 95.
[6] Sec. 63.
[7] *FNSI*, p. 93.

The products of South India, often employed by the colonies of South East Asia in their exchanges with China, imply that the Indo-Chinese trade was greatly facilitated by the colonisers of South East Asia. The Chinese accounts of the kingdom of Tuen-Siun in the Malay Peninsula relate that on account of its advantageous geographical position on the sea, it formed a meeting ground between the east and the west. The merchants from India and Parthia came here in large numbers to carry on trade and commerce, and the local market was frequented everyday by more than ten thousand men. Fu-nan which exercised suzerain authority over the kingdom of Tuen-Siun, was itself an important market town where the traders from India and China met.[3] In 225 A.D., Fu-nan and other countries offered the *lieou-li* (Pkt. *veḷūriya*, Skt. *vaidūrya*), the cat's eye as a present ; this gem must have been obtained from the Deccanese mines.[4] Asbestos was exported from India to Fu-nan by way of China in the 3rd century A.D.[5] The role of Fu-nan as intermediary in the Indo-Chinese trade is emphasised by a statement of Chang Yue[6] that a highly valued mirror from Western India was offered for sale in China sometime between 500 and 550 A. D. Java was another intermediary station between India and China. In 430 A. D., came to the Chinese court an embassy from Java,[7] which brought, along with rings of diamond, red parrots, coarse and fine cotton stuff from India, and cotton goods from Ye-Po.[8]

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[1] See Pelliot in *T'oung Pao*, XIII (1912), pp. 457-59, 61 ; *JA*, Vol. II, pp. 451-55 ; *IHQ*, Vol. XIV, pp. 380ff ; *SIS*, Vol. II, pp. 160f.

[2] *Mys. Arch. Rep.*, 1910, pp. 44ff.

[3] Majumdar, *op. cit.*, p. 10.

[4] *JA*, Vol. II, 14, pp. 21-22 : *T'oung Pao*, ii, 8, p. 182, n. 3 ; *FNSI*, p. [illegible]

[5] *T'oung Pao*, XVI, pp. 349-50 ; *FNSI*, p. 12.

[6] *FNSI*, pp. 84f.

[7] *Ibid.*, p. 12.

[8] Gandhāra, according to Pelliot, *JA*, II, p. 7.

Facts like these show that the sea-route between India and China was being actively used during the early centuries of the Christian era, sometimes directly and sometimes through the mediation of the colonies of Indonesia. Ma Twan-lin gives an interesting account of an embassy from South India which visited the court of the Chinese emperor Seuen-woo (500-16 A.D.) and gave much interesting information on the products of the country. The envoy reported that the kingdom represented by him 'produced lions, leopards, panthers, camels, rhinoceroses and elephants ; that there was a species of pearl there, called *ho-tse*, similar to *tale* (*yun-moo*), the colour of which was yellowish red (*tse*, reddish blue) ; . . . There were diamonds resembling amethysts (*tse-shih-ying*) . . . There was also tortoise-shell (*tae-mei*), gold (*kin*), copper (*tung*), iron (*tee*), lead (*yuen*), tin (*seih*), fine muslins embroidered with gold and silver ; there were also a variety of odiferous plants, *yuh-kin*, sugar-canes, and all kinds of products ; honey-bread (or solid honey), pepper, ginger and black salt."[1] This elaborate list of the produces presented before the emperor was no doubt made with a definite commercial purpose.

In the intercourse between India and the Far East, Ceylon played an important part. According to a Jātaka story,[2] it lay on the route between Bhṛigukachchha and Suvarṇadvīpa. The *Mahāniddesa* passage indicates that traders coming from the Far East to Western India had to touch Ceylon on their way. Fa-hien, who went to China from India, took his ship at a Ceylonese port. Cargo-ships coming from the land beyond the Bay of Bengal were sometimes unloaded at Ceylon and then sent to various marts of India. Cosmas[3] reports, "And from the inner countries, I mean China and other marts in that direction, it (Ceylon) receives silks, aloes, clovewood, sandalwood, and their other products, and these it again passes on to the outer parts, I mean to Male (the coast of Malabar— McCrindle), where pepper grows, and to Kalliana (Kalyan) where copper is produced and sesame wood and materials for dress ; for it is also a great mart . . . " A great quantity of China silk seems to have been imported to India from very early times. In the *Arthaśāstra*,[1] we have a reference to *Chīnapaṭṭa*. The *Periplus*[2] speaks of the export of raw silk, silk yarn and silk cloth from Thinae through Bactria to Barygaza and by the Ganges to Damirica. The evidence of Cosmas, however, shows that Chinese silk constituted an item of sea-borne trade also.

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[1] *FNSI*, p. 83.
[2] III. 188.
[3] *FNSI*, p. 89.

Before concluding our discussion on the overseas trade, we should note that the merchant mariners who carried on this trade did it under a great risk, since the sea was beset with dangers. Shipwreck is a common feature in the Jātakas[3] and representations of shipwreck in sculptures[4] and paintings[5] are not rare. 'A safe return was the cause of great rejoicing ; two or three successful voyages made a merchant a man of mark ; no one who had made six safe voyages had ever been known to tempt providence by trying a seventh.'[6] The *Sūrpāraka Jātaka*[7] records how a company of traders sailed from Bhṛigukachchha and was caught by an unseasonable wind. For four months the vessel tossed about on a primeval ocean and passed in succession Khīramāla, Aggimāla, Dadhimāla, Nīlakuśamāla, Nalamāla and Valabhāmukha before returning to India.[8] In a cave at Kanheri there is the representation of a scene of shipwreck on the sea and two persons helplessly praying for rescue to good Padmapāni who sends two messengers for the purpose.[9] Fa-hien[10] gives a vivid description of his perilous journey from Ceylon to China. The *Abhijñānaśakuntalam* relates the story of a merchant named

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[1] II. 2.

[2] Secs. 39, 64.

[3] II. 103 ; III. 267 ; V. 75 ; VI. 34.

[4] *BG*, Vol. XIV, p. 165. Cf. a Barhut sculpture representing the plight of three persons on the high seas (*EI*, Vol. XXXIV, Plate 32 c.).

[5] Yazdani, *Ajanta*, Part I, Pl. XIX.

[6] *BG*, Vol. XIII, Part II, p. 406.

[7] IV. 463.

[8] R. L. Mehta (*Pre-Buddhistic India*, p. 228) identifies these respectively with (1) some portion of the Persian Gulf, perhaps touching the south-eastern end of Arabia, (2) the Arabian coast near Aden or some portion of Somaliland, (3) the Red Sea, (4) Nubia on the north-east corner of Africa ; the canal joining the Red Sea with the Mediterranean, and (5) some portions of the Mediterranean where volcanoes are still to be found.

[9] Mookerji, *op. cit.*, p. 28.

[10] Beal, *Buddhist Records of the Western World*, Intro., pp. LXXXf.

Dhanavṛiddhi whose wealth passed to the king on the former's perishing at sea. The *Ratnāvalī* recounts the story of the Ceylonese princess being shipwrecked in the mid-ocean. In the *Daśakumāracharita* of Daṇḍin, there is the story of a merchant who goes to an island called Kālayavana and marries there a girl, but while returning home is shipwrecked.[1] Besides storms there were other dangers too. The *Periplus* describes the Gulf of Kutch as a varitable death-trap to the mariners. "Those who are drawn into the Gulf of Baraka are lost ; for the waves are high and very violent ; and the sea is tumultuous and foul, and has eddies and rushing whirlpools. The bottom is in some places abrupt, and in others rocky and sharp, that the anchors lying there are parted, some being quickly cut off, and others chafing on the bottom."[2] The Gulf of Cambay owing to its narrowness, strong current and rough and rocky bottom was very hard to navigate for those coming from the ocean. "And even if the entrance to the gulf is made safely, the mouth of the river at Barygaza is found with difficulty, because the shore is very low and cannot be made out until you are close upon it. And when you have found it the passage is difficult because of the shoals at the mouth of the river."[3] Again the extreme intensity of ebb and flow in the Narmadā made the entrance and departure of vessels at Barygaza dangerous for those who were inexperienced. "For the rush of waters at the incoming time is irresistible, and the anchors cannot hold against it ; so that large ships are caught up by the force of it, turned broadside on through the speed of the current, and so driven on the shoals and wrecked ; and smaller boats are overturned ; and those that have been turned aside among the channels by the receding waters at the ebb, are left on their sides, and if not held on an even keel by props, the flood tide comes upon them suddenly and under the first head of the current they are filled with water."[4] In order to assist the foreign ships on this difficult gulf the state maintained a regular service of pilotage. The *Periplus* informs us that native fishermen in the king's service were stationed at the very mouth in order to pilot the vessels from the coast of Syrastrene to Barygaza. "And they steer them straight from the mouth of the bay between the shoals with their crews ; and they tow them to fixed stations, going up with the beginning of the flood, and lying through the ebb at anchorages and in basins. The basins are deeper places in the river as far as Barygaza, which lies by the river, about three hundred stadia up from the mouth."[1]

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[1] Mookerji, *Indian Shipping*, pp. 45f.

[2] Sec. 40.

[3] *Ibid*, sec. 43.

[4] *Ibid.*, sec. 46.

Piracy was another potential danger throughout the coasts of the Arabian Sea and the Bay of Bengal.[2] Since very early days, Western Asia was known for piracy. The Assyrian king Sennacherib in 694 B.C. attempted to exterminate piracy with the aid of a great fleet.[3] Pliny[4] refers to an Arab tribe called Aseitae who 'placing the inflated skins of oxen beneath a raft of wood . . . ply their piratical vocation with the aid of poisoned arrows'. The Hinavi Arabs were well-known pirates in the 4th century B.C.[5] To prevent the incursions of the pirates from the coastal-side, the Persians blocked the mouth of the Tigris.[6] South Kathiawar, Cambay and the Gujarat coasts were also infested with pirates, the Sangharas and the Vaghers or Kabas were probably the most ancient of these pirates.[7] The Konkan coast, with its numerous creeks and bays, offered the most suitable resort for these pirates. Ptolemy[8] refers to the Konkan seaboard as Pirate Coast which extended from Chaul to Mangalore or roughly from Bombay to Goa. The *Periplus*[9] also notices the pirates of this place. Ptolemy[10] says that these pirates occupied five ports, *viz.*, Mandagora, Byzantion, Chersonesus, Armagora and Nitria, and even two inland towns, *viz.*, Olokhaira and Mousopalla. Pliny[11] says that the Greek or

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[1] Sec. 44.

[2] For a discussion on the piracy in the Indian Ocean, see K. V. Hariharan, 'Sea-dangers in Early Indian Seafaring', *JIH*, Vol. XXXIV, pp. 319.

[3] Rawlinson, *Intercourse between India and the Western World*, p. 6.

[4] *Nat. Hist.*, VII, 35.

[5] Danver, *Persian Records*, p. 5.

[6] Strabo, XVI. i. 10 ; Vincent, *Commerce of the Ancients*, Vol. I, p. 505.

[7] *BG*, Vol. IX, p. 526.

[8] VII. i. 84.

[9] Sec. 53.

[10] Majumdar-Sastri, *op. cit.*, pp. 45f.

[11] *Nat. Hist.*, VI. 26.

Egyptian vessels which traded with India carried companies of archers, 'because the Indian seas are infested with pirates'. Muziris, the nearest port of call of such vessels, was too not considered very safe on account of the pirates which frequented its vicinity and occupied a place called Nitrias in the neighbourhood. Daṇḍin's *Daśakumāracharita*[1] contains a reference to the piracy in the Bay of Bengal in the neighbourhood of Tāmralipta.

The nuisance of piracy was a constant headache to the state. Kauṭilya[2] lays down that the pirate-ships are to be destroyed at sight. Kshemendra in his *Bodhisattvāvadānakalpalatā* records a tradition that Aśoka had issued a sort of marine edict on a copper plate against the piracy of the Nāgas in the Eastern waters.[3] The father of the Red Chera is said to have destroyed the Kadambu of the sea-coast— piratical rendevous of the tribe who became the Kadambas.[4] But the attempt of the Cheras did not result in a complete extermination of these human sharks of the Malabar, Kanara and Konkan coasts as they were noticed by Marco Polo, Ibn Batuta and Abdur Razzāk.[5] Until well into the 19th century, when their occupation was destroyed by the British arms, these pirates continued their activities on the western sea-board of the Indian Peninsula.

The dangers of sea-voyage helped to develop among a section of people a sentiment against overseas travel. This is reflected in the law books of Baudhāyana[1] and Manu[2] which introduced a rule making seafaring a crime. The violation of this injunction involved grave offence and the offender required as penance to eat only a little food at every morning, noon and night and to pass the days standing and the nights sitting for three years. The high rate of interest prescribed by Kauṭilya[3] to be paid by the sea-trader is indicative of a general suspicion about the success of any overseas voyage. So while 'an interest of a *paṇa* and a quarter per month per cent (*i.e.*, 15% per annum) is just', Kauṭilya says, "Twenty *paṇas* per month per cent (*i.e.*, 240% per annum) prevails among sea traders (*samudrāṇām*).'

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[1] Ch. VI, Kale's trans., p. 115.

[2] II. 28.

[3] Mookerji, *op. cit.*, p. 114.

[4] Majumdar-Sastri, *op. cit.*, p. 347.

[5] Schoff (*The Periplus*, pp. 202f), gives an interesting account of the foreign travellers who witnessed piratical activities in the Malabar, Karnata and Konkan coasts. These foreigners further give evidence of the existence of a practice, which was even resorted to by Śivājī allowing the ruler of the coast-countries to confiscate any ship or goods that were driven ashore. The Mottupalli record (*EI*, Vol. XII, pp. 188-97) of Kākatiya Gaṇapatideva shows the prevalence of this custom in the coast countries along the Bay of Bengal also. As is stated in the said record, the previous kings used to seize by force all the cargo, gold, elephants, precious stones etc., of vessels *en route* from one country to another, which, driven by contrary winds, happened to be stranded and wrecked in the sands near Moṭṭupalli. This charter was, therefore, issued by Gaṇapati promising protection to the merchants trading in their vessels from the sea-port of Moṭṭupalli with islands and coast towns in distant countries.

But the perils of the sea or the canonical injunction failed to desist the indomitable sailors from exploring the Indian Ocean. The law, therefore, was to be interpreted by the later commentators as applying to the Brāhmaṇas only.[4] The motive force, which encouraged the ancient explorers to belittle the sea-dangers and compel the lawyers to modify the code, was the desire of acquiring the treasure of the sea. This attitude to the sea is represented in a traditional Gujarati verse : "Who goes to Java never returns. If by chance he returns, he brings back money enough to live on for two generations."[5]

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[1] II. I ; *SBE*, Vol. XIV, p. 2.

[2] III. 158.

[3] *AS*, III. 11.

[4] Kane, *History of Dharmasastra*, Vol. III, p. 934.

[5] *Rās Mālā*, ed. A.K. Forbes, p. 418 ; A.L. Basham, 'Notes on seafaring in Ancient India', *AL*, Vol. XXIII, p. 69.

14

Banking And Allied Business

THE discovery of numerous hoards of gold, silver and copper coins from different parts of India suggests a general tendency among our pedecessors to bury their treasures underground so that thieves and robbers could not grab them. The *Gāthāsaptaśatī* referring to the *nidhis*[1] and *nidhānakalaśas*[2] in several places shows its familiarity with the practice. The epigraphs of our period also indirectly refer to the chance of discovering *nidhi* from any place while recording the immunity of the donee from surrendering the royal share on the underground treasure to the state. This method of deluding the thieves, however, was not always paying. Sometimes one had to suffer trouble owing to the disappearance of the marks for identifying the spot of the buried treasure.[3] There again remained a constant possibility of this hidden wealth being plundered by others.[4]

The consideration of safety, therefore, induced the common people to devise other means of keeping their life's saving. In this respect the merchants of ancient Indian often came to their rescue. Playing on the popular apprehension of being robbed of their wealth, the trading community began to function somewhat like modern banks receiving public deposits and paying interests on them. Basham[5] observes, "At all times until the coming of the Europeans, banking in India was a by-product of trading." The traders required money for their business and the common people needed safety for their accumulated wealth. When the latter saw that, besides security, they were to get an interest on their money if it was deposited with a businessman they were encouraged to keep their wealth in the custody of a reliable *śreshṭhin*. Apart from the individual traders the joint-stock companies also used to receive deposits of public money. The inscriptions of the Deccan throw welcome light on the function of these companies as banks. Thus in a Nasik inscription we have the reference to two weavers' guilds 'which, like banks, received permanent deposits which they held as trust-funds, the principal of which they were to keep in tact, and were responsible for, and might invest in their own way subject to that responsibility, as banks do with their deposits, but for the use of that money they had to pay interest at certain stipulated rates to the beneficiary named in the grant'.[1] The epigraph[2] in question records, as seen in a previous chapter, that the Śaka prince Ṛishabhadatta made a permanent investment of 2000 *kārshāpaṇas* in a weavers' guild at Govardhana on the condition that the latter would give 12% annual interest on the deposit. A second investment amounting to 1000 *kārshāpaṇas* was made in another weavers' guild of the same place and this time the rate of interest was 9%. Since the investments were made with the avowed object of providing out of the interest the twenty monks keeping *vassa* in the Nasik cave with cloth money and money for light food the guilds 'appear not only as banks but also as trustees and executors of charitable endowments'. This aspect of the guild-activity may be illustrated by a few more examples. A lay worshipper named Vishṇudattā, the Śakāṇikā, is said to have instituted a perpetual endowment for the well-being and happiness of all beings, in order to provide medicine for the sick of the *saṁgha* of the monks of whatever sect and origin dwelling in the monastery on Mt. Traraśmi. This endowment was divided into three parts and invested in three guilds of Govardhana. Thus, one thousand *kārshāpaṇas* were deposited with the guild of *kularikas* (potters ?), five hundred *kārshāpaṇas* with that of *tilapishakas* (oil-pressers) and two thousands with a guild the name of which is lost.[1] It appears from the partially decipherable writing in *ll.* 4-5 of a Nagarjunakonda inscription[2] that for the purpose of creating a permanent endowment in favour of a religious establishment the sum of one hundred *dīnāris* was deposited in four guilds, seventy in one of them and ten in each one of the others. *Ll.* 6-7 of another Nagarjunakonda inscription[3] contain the reference to the creation of an endowment amounting to 150 *dīnāri-māshakas.* In line 7 we find the expression *esā cha akhaya-nivi ku*[*li*]*ka-pamukhāya.* The mention of *kulika,* 'the chief or head of a guild', suggests that the money was entrusted with a guild. An inscription of Junnar[4] shows that at least the guilds of the bamboo-workers and braziers of ancient Junnar received similar type of public endowments.

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[1] II. 25; V. 23.
[2] VI. 7, 75, 76.
[3] *GS*, IV. 18.
[4] *Ibid.*, IV. 73.
[5] *The Wonder that was India*, p. 222.

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[1] R.K. Mookerji, *Local Government in Ancient India*, p. 97.

[2] *EI*, Vol. VIII, pp. 82ff.

Besides cash deposits, the guilds accepted landed property, managed it and assigned an interest out of its income. This fact has been revealed by a Junnar inscription[5] which records the investment of the income of a field at Vaḍāhikā for planting *karañja* trees and, of another field for planting banyan trees with the guild at Koṇāchika by one Āḍuthuma.

In addition to the epigraphs referring to the investments in the guilds, we have others which though record the institution of permanent endowments do not mention specifically that these were invested in the corporate banks. Thus, a Nasik inscription[6] tells us that the merchant Rāmaṇaka had given as a permanent endowment one hundred *kārshāpaṇas* in the hands of the Saṁgha. 'Out of this a cloth money of twelve *kārshāpaṇas* is to be given to the ascetics who keep the *vassa* (here)'. Similarly, a Kanheri inscription[7] refers to the offering of a permanent grant of 200 *kārshāpaṇas* bearing (a monthly interest of) one *kārshāpaṇa* into the hand of the community. As the endowment in each case is said to have yielded interest it seems that the money was invested in a guild. The same is true with regard to the gift of merchant Dharma of Kalyāṇa. He, according to a Kanheri inscription,[1] had instituted a permanent endowment and 'out of (the interest of) that, 16 *kārshāpaṇas* are to be given (to defray the expense) for clothes to the ascetic who resides (in the cave) during the rainy season, some trifle for (his) shoes and in the season (the value) of one *kārshāpaṇa* a month to him who dwells (there). With the remainder the cave is to be kept in repair.'

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[1] *EI,* Vol. VIII, pp. 88f.

[2] *EI,* Vol. XXXV, pp. 4ff.

[3] *EI,* Vol. XXXIV, pp. 210f.

[4] Lüders' List, No. 1165.

[5] *Ibid.,* No. 1162.

[6] *EI,* Vol. VIII, p. 90, No. 17.

[7] *ASWI,* Vol. V, p. 80, No. 15.

Since money was deposited in the craft-guilds by persons of every walk of life ranging from princes to the commoners, it is clear that these guild-banks had already earned much goodwill for their efficient handling of public money. Sometimes these investments were announced in the town-assembly (*nigamasabhā*) and registered at the record-office.[2] This procedure made the guilds responsible to the town-corporations for the due discharge of their duties as trustees of public money.

The rate of interest offered on fixed deposits was not uniform. Ṛishabhadatta's investment shows that there existed at Nasik at least two different rates side by side. Thus we read in the Śaka prince's record that he made a permanent endowment of 3000 *kārshāpaṇas*. The entire amount was invested in two weavers' guilds at Govardhana—one receiving two thousand *kārshāpaṇas* and the other one thousand *kārshāpaṇas*. The guild receiving the larger sum agreed to pay an interest at the rate of 'one *pratika* [monthly] for the hundred[2], while the other committed to give the interest at the rate of 'three quarters of a *pratika* [monthly] for the hundred'. So the interest on 2000 *kārshāpaṇas* was 12% per annum while the interest on 1000 *kārshāpaṇas* was 9% per annum. The reason which caused this difference in the rate of interest at the same place at the same time is obscure. One is prone to suggest that this was due to difference in the amounts deposited. Hence the first guild, which received the larger sum, agreed to pay more interest than the second which received the lesser amount. But this assumption is beset with difficulty. We know from a contemporary Nasik inscription that a deposit of 100 *kārshāpaṇas* only also yielded an

[1] *Ibid.*, p. 81, No. 16.

[2] Cf. *ete cha sarva srāvita nigamasabhāya nibandha cha phalakavāre charitratoti* (*EI*, Vol. VIII, Nasik Cave Inscription, No. 12, *l.* 4).

interest at the rate of 12% per annum.[1] Sometimes the interest came down to 6% annually. This can be gathered from the Kanheri inscription, already quoted, which records the investment of 200 *kārshāpaṇas* 'bearing (a monthly interest of) one *kārshāpaṇa*.' The extant epigraphs of the Deccan, therefore, refer to three different rates of interest, *viz.*, 12%, 9% and 6%. The highest known rate, *i.e.*, 12%, however, was lower than the rates prescribed in the law-books[2] and this was 'because of the better security afforded to the depositors'. "The low rate of the interest in fact is an index at once of the security and stability of the banks, their efficiency, permanence and prosperity which attracted to them even royal deposits and benefactions."[3]

Majumdar[4] has pointed out that the Machiavellian policy of exploiting the guilds as laid down by Kauṭilya[5] bears testimony to the fact that these corporations also lent out money. Money-lending was also indulged in largely by the wealthy *śreshṭhins*.[6] A verse in the *Gāthāsaptaśatī*[7] shows that the interest on the debt increased daily, that is, the interest was calculated according to the number of days for which the capital sum was lying with the debtor. This principle was apparently applicable to those creditors who borrowed the sum with the intention of returning it within a short period. But more than often this pious desire was not fulfilled, and we read in the verse referred to that the borrower sometimes left behind him the burden of such daily increasing debts as a legacy to his son. The *Gāthāsaptaśatī* thus echoes the time-honoured custom that the legal heir to a debtor is to clear the debt of his predecessors.[8]

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[1] *EI*, Vol. VIII, p. 90, No. 17.

[2] According to Kauṭilya (*AS*, III. 11), an interest of a *paṇa* and a quarter per month per cent is just. The law-books sanction monthly interest at the rate of 2% from a Brāhmaṇa debtor, 3% from a Kshatriya, 4% from a Vaiśya and 5% from a Śūdra (cf. *Manu*, VIII, 142; *Yāj.*, II. 38; *Vishṇu.*, VI. 2; *Vāś.*, II. 42; also *Select Ins.*, p. 158n).

[3] R.K. Mookerji, *op. cit.*, p. 98.

[4] *Corporate Life in Ancient India*, p. 10.

[5] *AS*, V. 2.

[6] *Jāt.*, I. 227.

[7] II. 3.

[8] Cf. *Yāj.*, II. 50; *SBE*, Vol. XXX, p. 328; *Kāt.*, 560; *Vṛiddha-Hārita*, VII. 250-51; *Vishṇu.*, VI. 27; also Kane, *History of Dharmaśāstra*, Vol. III, p. 442.

Kauṭilya[1] enjoins, 'sons of a deceased person shall pay the principal with interest. (In the absence of sons) kinsmen claiming the share of the dead man or sureties such as joint partners of the debt shall pay the same.' Manu[2] and Gautama[3] likewise lay down that the successor of a debtor should pay the debt. When a person was abroad for a long time or died after incurring a debt for the maintenance of the family, the members, since separated, remained responsible for its clearance.[4] The obligation of paying such loans, however, did not extend beyond the third generation from the person who had originally contracted the debt.[5] These rules, as framed by the *śāstrakāras*, safeguarded the interest of the usurers and helped money-lending to develop as a flourishing business.

The regulations governing debts and mortgages mentioned in the earliest Dharmaśāstras, indicate that the practice of lending money against a pledge of suitable value was widespread. As there were severe laws in the case of a pledge being lost, sold or mortgaged, the depositary took care to preserve the pledge. The *Gāthāsāptaśatī*[6] alludes to the extreme precaution with which a mortgaged property (*nyāsa*) was protected by the depositary. Manu says[7] that a mortgagee should remain prepared to hand over the pledge the moment it is demanded even though the same is made after a long delay. If he fails to maintain it properly, he is to forgo the amount lent out.[8] A pledgee who enjoys the property left with him, is to write off the interest and, if he causes damage to it, he is to pay its value.[9] When a pledge is lost, used up, sold, mortgaged, or misappropriated, the pledgee, says Kauṭilya, is to restore not only four times its value, but pay a fine of five times the stipulated value.[1] These rules, though elaborate, could not banish completely dishonesty from this business. The occurrence of the expression *durnikshepa* in the *Gāthāsaptaśatī*[2] betrays a knowledge of corrupt persons who were not in the habit of restoring pledges.

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[1] *AS*, III. 11.

[2] VIII. 160.

[3] *Ṛikthabhāji ṛiṇam pratikuryuḥ* (XII. 40).

[4] Cf. *Nār.*, IV. 213 ; *Manu*, VIII. 166.

[5] *Nār.*, IV. 4.

[6] I. 93.

[7] VIII. 145.

[8] *Nār.*, IV. 126.

[9] *Manu*, VIII. 144 ; *Nār.*, IV. 127 ; *Vishṇu.* VI. 5-6. Kauṭilya (*AS*, III. 12) prescribes that a person who enjoys the pledge without permission shall not only pay the net profit he derived from it, but also forfeit the money lent against the pledge.

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[1] *AS*, III. 12.

[2] II. 54.

15

Currency

ONE is surprised to note that while the southern states produced a host of epigraphs, sculptures and architectural and monumental remnants, their contribution to the field of numismatics is not significant. As remarked by Altekar,[1] "Not a single dynasty of the Deccan or of Southern India produced a coin series which can compare with the Gupta coinage in artistic beauty, variety, and fine workmanship.' We have so far found no coin issued by the Vākāṭakas, Ikshvākus, Gaṅgas, Kadambas, Pallavas or the Rāshṭrakūṭas. The Sātavāhanas issued numerous coins, but these are generally crude. The six copper coins conjecturally ascribed to the Sālaṅkāyanas[2] seem to belong to a different dynasty.[3] The coins of the Chālukyas are few and far between and, as these were issued in gold, their use in ordinary transactions seems unlikely.

While coins were employed in business transactions it appears that the system of barter was also in vogue side by side. Indeed, despite a steady development of trade and commerce, village economy in the Deccan was to some extent closed[4] and the villagers could obtain their daily requirements from their own locality by means of barter. Transaction by barter was employed even in foreign trade as late as the time of Antonines. Pausanius[5] exclaims, "Traders to India tell us that the Indians gave their own wares in exchange for those of the Greeks without employing money, even though they have gold and copper in abundance." Beside barter wide traffic by *cowrie*-shells made the use of metallic coins still more restricted. Fa-hien[1] saw its use in the ordinary daily transactions. Hiuen Tsang[2] noticed that the currency of the Koṅgoda country was *cowries* and pearls. This fact shows that in many sea-coast kingdoms *cowries* were the medium for small purchases and pearls for big transactions. Another important factor which encouraged the rulers not to issue any new series of coins was the fact that in ancient India there was no restriction in the circulation of the coins of one kingdom in another or of an earlier age in the succeeding periods. In other words, coins once minted never went out of circulation. The *Periplus* says, "and to the present day ancient *drachmae* are current in Barygaza, coming from this country (Bactria), bearing inscriptions in Greek letters, and the devices of those who reigned after Alexander-Apollodotus and Menander".[3] The evidence of the *Sāmantapāsādikā*[4] shows that the coins of Rudradāman along with other Śaka and non-Śaka coins of about the same weight standard were in circulation at least as late as the 5th century A.D., if not in the later periods also. Even the *nīlakahāpanas* of earlier times appear to have been current centuries after their first circulation.[5] The mention of these coins as *Porana*, *i.e.*, ancient, in the Pali texts proves their antiquity. Lastly, so far as the South Indian states are concerned their need of issuing coins was largely neutralised by the west. As a matter of fact Roman *aureus* and *denaries* were current throughout India and their impact on the indigenous coinage is clearly borne out by the application of the term *dīnāra* to gold coins in the Smṛitis. Moreover, there were numerous local moneyers to meet the requirements of their respective localities. Indeed, in the opinion of Smith, "the punch marked coinage was a private coinage issued by guilds and silversmiths with the permission of the ruling authority."[1] Rapson[2] also attributes the punch-marked coins to the merchants and money-changers. This view, however, has been contested by scholars like Spoonar,[3] Bhandarkar[4] and Walsh,[5] according to whom coinage in India was exclusively a privilege of the state from the earliest times. S.K. Chakraborty[6] also says that practically all or the majority of the coins examined by Smith are surely state issues ; but at the same time he maintains that originally the punch-marked coins were being issued by private bankers whose symbols have not yet been recognised by scholars owing to insufficient study and to the fact that the private issues were mostly called back and given new impress when the state entered into the field. As to the symbols noticed on the punch-marked coins, J.N. Banerjea[7] observes that the marks were those of a central authority that guaranteed the genuineness of the metal and the correctness of the weight. But the evidence of Buddhaghosha's *Visuddhimagga* (5th century A.D.) goes clearly against the view that coinage was a state monopoly.[8] On the other hand, the text in question suggests that all punch-marked coins were not issued by the state, that some of them were certainly 'issued by guilds and silversmiths' as Smith suggested and that such coins were in circulation side by side with those issued by the states. This is apparent from a passage in the said text which states how by observing the distinguishing marks stamped on the coins a goldsmith could at once tell which of them were struck at which village, mufassil town, capital city, mountain and river banks, and also by what mint-master.[9] In this passage there is no indication of the symbols suggesting the state in which the coin was made or by which it was issued. Had there been any such symbol, whose importance was bound to be far more than others, Buddhaghosha would have hardly ignored it. Evidently the manufacture of the *kārshāpaṇas*, referred to in the *Visuddhimagga* passage, was not directly associated with the state. Moreover, it is not likely that coins should be issued from villages if minting of coins was rigidly controlled by a central authority. Incidentally, reference may be made to the copper coins bearing the names of certain localities, *viz.*, Tripurī, Ujjayinī, Kauśāmbī and Vārāṇasī,[1] which seem to have been issued by local bodies pertaining to the places in question. It is also apparent that the coins bearing the word *negamā* (Skt. *naigamāḥ*) meaning 'trade' or 'members of an administrative board pertaining to a town' were issued locally.[2] Similarly lumps of copper, known as *ḍhabuā*, were private issues.[3] Sircar[4] refers to a practice current in the times of the Peshwas when "coinage was not a monopoly, either private or governmental. Not a few people were apparently licensed to mint coins which naturally varied in their weight, purity and types from place to place . . . Even in a single town, various kinds of coins were in circulation. Obviously these were exchanged at a rate which varied according to the metal used in the coins."[5] It is well-known

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[1] *EHD*, p. 785.

[2] *D.R. Bhandarkar Volume*, pp. 213-16.

[3] This suggestion is made by Dr. D. C. Sircar.

[4] See Ethel Simkins, *Agricultural Geography of the Deccan Plateau of India*, p. 72.

[5] III. xii, 3.

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[1] *Fa-hsien's Records of Buddhistic Kingdoms*, trans. Legge, p. 43.

[2] Watters, *op. cit.*, p. 197.

[3] Sec. 47.

[4] *JUPHS*, Vol. VI, pp. 157-73 ; *JNSI*, Vol. XIII, p. 189.

[5] C. D. Chatterjee, 'Numismatic Data in Pali Literature', *Buddhistic Studies* (ed. B.C. Law), pp. 381, 421ff.

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[1] *Catalogue of the Coins in the Indian Museum*, p. 113.

[2] *JRAS*, 1895, p. 874.

[3] *ASI, AR*, 1905-6, p. 153.

[4] *Carmichael Lectures*, 1921, pp. 98f.

[5] *JRAS*, Cent. Suppl., 1924, pp. 175f.

[6] *A Study of Indian Numismatics*, pp. 129-30.

[7] *The Comprehensive History of India*, Vol. II p. 777.

[8] See Sircar, 'The Issue of Punch-marked Coins', *JNSI* (Golden Jubilee Volume), Vol. XXIII, p. 298.

[9] *ASI, AR*, 1913-14, p. 226; Bhandarkar, *op. cit.*, p. 100.

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[1] Allan, *BMC, Anct. Ind.*, pp. 239, 262 ; *JNSI*, Vol. XI, pp. 9-10 ; Vol. XII, pp. 134-35 etc.

[2] See Allan, *op. cit.*, p. CXXVI ; *EI*, Vol. XXXV, p. 5.

[3] *JNSI*, Vol. VI, pp. 55ff.

[4] *Op. cit.*, p. 301.

[5] *JNSI*, Vol. IX, p. 50. That private minting of coins and currency of foreign coins were features of the Maratha kingdom are apparent from a statement of Śivājī (see *JNSI*, Vol. VII, p. 78). When the English merchants requested Śivājī to introduce their coins in his dominion the Maratha king informed them that he "forbids not the passing of any number of coins, nor on the other side can he force his subjects to take those monies whereby they shall be losers ; but if their coins be as fine an alloy, and as weighty as the Mughal and other princes, he will not prohibit it" (*Sabhāsad*, p. 95 ; S. N. Sen, *Siva Chhatrapati*, pp. 134f.). This principle resulted in the circulation of no less than 26 different sorts of gold coins in Śivājī's realm, some of which were foreign issues (S. N. Sen, *Administrative System of the Marathas*, p. 318). The policy of tolerating private issues was not abandoned in later periods. This is illustrated by an official list published for the guidance of the civil courts in the Bombay Presidency, which by way of giving the relative intrinsic values

(*Continued to next page*)

that, in the late medieval period coins of various ages and countries passed as currency in the Indian market.[1] That the same position held good in the early period is proved by the currency of the old *rudradāmaka* coins in Buddhaghosha's age, of the silver coins of Kalachuri Karṇa of the 6th century even in the 8th century[2] and of early Roman coins in the markets especially of South India. "Under the circumstances," as observed by Sircar,[3] "it is difficult to believe that coins minted by anybody anywhere could have been effectively prevented from being circulated in the ancient Indian market. When punch-marked coins, manufactured centuries ago, were in circulation, it seems to us practically impossible to check additions to the old stock by guilds and silversmiths from time to time especially in view of the fact that the said coins were used all over India while the whole country was never under a single suzerain and that often there was no effective administration in many areas."

No uniformity in the shape and appearance of the punch-marked coins was maintained. Buddhaghosha speaks of the *nīlakahāpaṇas* as *dīgha-* (longish), *chaturassa* (oblong) and *parimaṇḍala* (round).[4] In the panel illustrating the story of Jūjaka in the Ajanta Cave XVII may be recognised round shaped coins.[5] Of the two disc-shaped moulds of punch-marked

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of the local currencies in exchange of Queen Victoria's coins mentioned no less than 38 gold coins and more than 120 silver issues as current in different parts of the country (Ranade, *Miscellaneous Writings*, p. 331). The owner of a private mint, who was usually a *sonār* or goldsmith, had to pay in the shape of royalty a license fee for earning the privilege of issuing coins. These licensed moneyers were responsible for coining and for keeping up the standard proportion in the alloy. Fine or withholding the licence was the punishment for any breach of contract. There is an interesting record which illustrates the system of private minting in the dominions of the Peshwa. "Bālājī Bāpujī is permitted to establish a mint at Kasba Nagathane and to coin pice of 10 *māshas* in weight. If pice of the prescribed weight is coined, it will be all right; but if the pice is made less weighty he will be fined" (*P.D.* II, p. 157).

[1] *JNSI*, Vol. VII, pp. 87ff.

[2] Cf. *EI*, Vol. XXV, pp. 225ff; Bhandarkar's List, No. 1206; etc.

[3] *JNSI*, Vol. XXIII, pp. 301f.

[4] C.D. Chatterjee, *op. cit.*, p. 431.

[5] Yazdani, *Ajanta Frescoes*, Part IV, Plates XXb and XXVI.

coins unearthed at Sisupalgarh, the better preserved one shows coin-sockets of divergent shapes.[1] Actual specimens of punch-marked coins so far discovered are also conspicuous by the variety of shape.

We shall see later on that, as in the case of shape, no uniformity in the weight standard of coins, which were essentially local in character, could be maintained no doubt for the difference in the weight system from place to place. While studying Kshatrapa and Sātavāhana coinages, Rapson[2] remarked, "The various coinages show considerable variations in size and weight, such as might reasonably be expected in the different provinces of so extensive an empire."

Of the materials used for the manufacture of coins, Buddhaghosha refers to gold, silver, copper and iron. To this list we may add lead, nickel and mixed metals like potin and billon. The *Nidānakathā* prefixed to the Jātakas speaks of *sīsa-kahāpaṇa* or lead *kārshāpaṇas*.[3] The Sātavāhana coins are generally of lead or copper. The Western Kshatrapas and the Kuras of Kolhapur are known to have issued coins in potin, a curious alloy 'composed of yellow and red copper, lead, tin and some dross'.[4] According to Buddhaghosha, pieces of wood, bamboo, palm-leaf, and lac when impressed with a *rūpa* (figure) could be used as coins. He further informs us that pieces of bone and leather or fruits and seeds of trees which were with or without a *rūpa* also passed for money.[5] As to the leather-money, Bhandarkar[6] finds its actual prevalence in Maharashtra in the 13th century A.D. Jñānadeva in his Marathi commentary on the *Bhagavadgītā*, Ch. IX, in Śaka 1212 (1290 A.D.) writes, "If but the letters of the royal order are on a scrap of leather, through that very leather are all commodities obtainable (V. 453). Even gold and silver have no value without these letters. The royal order is the principal thing. If a single leather piece of that kind is obtained, all things become purchasable (V. 454)." Here we probably have an allusion to leather money, but it is not clear whether the reference is to leather-coins or a sort of currency notes.

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[1] *Anct. Ind.*, 1949, No. 5, p. 99.

[2] *Catalogue of the Coins of the Andhra Dynasty etc.*, p. Cl xxxiii.

[3] Bhandarkar, *op. cit.*, p. 142.

[4] *Ibid.*, p. 75.

[5] *Ibid.*, p. 145.

[6] *Ibid.*, p. 146.

In the absence of a paper currency in the early periods of Indian history, gold coins for their metal value were of the highest purchasing capacity. The presence of a gold currency in the Deccan during the period under review is recorded in the epigraphs. The concluding portion of the Nasik inscription No. 12 notes that Ṛishabhadatta made to gods and Brāhmaṇas a gift of 70,000 *kārshāpaṇas* 'each thirty-five making a *suvarṇa*, a capital (therefore) of two thousand *suvarṇas*'. As no indigenous *suvarṇas* of the period are known it seems that the reference here is to the prevalent gold currency of the Kushāṇas, who themselves borrowed it from the Roman *aureus*.[1] Gold coins are mentioned in other inscriptions also. *Ll.* 6-7 of a Nagarjunakonda[2] inscription contain the reference to a permanent endowment amounting to 150 *dīnāri-māshakas*. In connection with the *akshayanīvi* grant another inscription[3] from the same place records the endowment of 75 *dīnāris* in one guild and ten *dīnāris* in each of three others. The fact that only ten *dīnāris* were deposited in the guilds in several cases suggests that these were probably gold coins. In Indian literature, *dīnāra* stands for a gold coin. In the Jaina *Kalpasūtra*,[4] a lady's necklace is described as consisting of grains (of gold) and golden *dīnāras* strung together. In the *Nāradasmṛiti*[5], *dīnāras* and other precious objects are mentioned. In the *Kathāsaritsāgara*,[6] *dīnāras* have been referred to as *suvarṇa-rūpakas*, or gold coins. Amara[7] makes it synonymous with *nishka*. Bṛihaspati[8] and Nārada[9] identify *dīnāra* with *suvarṇa*. It has been pointed out that *dīnāri* and *dīnāra* are Indian modifications of Latin *denarius*.[10] As to the *dīnāri-māshaka* it is observed that *māshaka* was the one-sixteenth of any standard weight and as such it seems to be identical with the South Indian *fanam* which may have been regarded as one-sixteenth of the Roman *denarius* or *aureus*, imported in the course of trade in the South Indian ports in the early centuries of the Christian era, either in weight or in value.[1]

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[1] Rapson, *op. cit.*, p. ClXXXV.

[2] *EI*, Vol. XXXIV, pp. 210-11 ; cf. also Vol. XX. p. 19.

[3] *Ibid.*, Vol. XXXV, pp. 4-7, No. I,B.

[4] *SBE*, Vol. XXII, p. 233.

[5] II. 34.

[6] 78, 11 and 13.

[7] III. 4. 14.

[8] VIII. 10.

[9] XXI. 60.

[10] Allan, *Catalogue of the Coins of the Gupta Dynasties etc.*, p. cxxxiii.

According to Nārada,[2] the silver *kārshāpaṇa* was the standard South Indian coin. The *kārshāpaṇas* referred to in the Nanaghat, Kanheri and Nasik inscriptions are undoubtedly the silver *kārshāpaṇas* of Nārada. In Ṛishabhadatta's record at Nasik, the exchange ratio of *suvarṇa* and *kārshāpaṇa* is given as 1 : 35. These coins are usually supposed so far as the weight standard is concerned to be imitations of the hemidrachms of the Graeco-Indian princes Apollodotus and Menander which previously were circulated in western India.[3] The class of coins referred to by Buddhaghosha as *rudradāmaka* and which, according to the *Sāratthadīpanī* were struck by Rudradāman were apparently these silver *kārshāpaṇas* of the Śaka rulers. 'The class seems also to include non-Śaka silver coins of about the same weight standard such as those of Gautamīputra Yajña-Śātakarṇi and of the Guptas'.[4] The *purāṇa* coins mentioned in the Alluru inscription[5] are also silver coins. In the Sanskrit and Pali literature, *pūrāṇa* and *porāṇa* have been used respectively to refer to *dharaṇa* and *nīlakahāpaṇa* both of which were silver coins. It was also the same as silver *kalañju*,[6] so common in South India. Sāriputta in his *Sāratthadīpanī* informs us that a *rudradāmaka* was three-fourths of a *nīlakahāpaṇa*.[7] Silver coins of the weight standard of about 20 *ratis* were imitated by the Traikūṭakas, Kalachuris etc. They were variously called *dramma*, *dharaṇa*, *rūpaka* and *kārshāpaṇa*.

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[1] *EI*, Vol. XXXIV, p. 211 ; cf. *suvannamāsaka* in *Jāt.*, IV, 106 ; V. 164. The division of a standard gold coin (*suvarṇa*) in 16 *māshas* is also known from *Manu*, VIII, 134 and *Amara*, *Vaiśya-varga*, 85-88.

[2] *Kārshāpaṇo dakshiṇasyam diśi raupyaḥ pravarttate*, *Nār.*, XXI. 57.

[3] Rapson, *op. cit.*, p. clxxxiv.

[4] Sircar, 'Buddhaghosha and Indian Numismatics', *JNSI*, Vol. XIII, p. 189.

[5] No. 331 of *An. Rep. on South Ind. Epigraphy*, 1924 ; *Suc. Sāt.*, pp. 328ff.

[6] Elliot, *Coins of South India*, p. 49.

[7] *JNSI*, Vol. XII, p. 189.

Besides these silver coins variously described as *kārshāpaṇa*, etc., Bhandarkar discovers another type in the record of Ṛishabhadatta. The learned scholar writes, "Ushabhadatta deposited a sum of 1000 *kārshāpaṇas* at the monthly rate of three-fourth p.c., and yielding, therefore, an annual interest of 90 *kārshāpaṇas*. This amount of 90 *kārshāpaṇas*, we are told, was the *kuśaṇamūla*, *i.e.*, the value of *Kuśaṇas* . . . And to me the name appears to have been given to the silver coinage of Nahapāna, because he issued it for his overlord who must have been known as Kuśaṇa, *i.e.*, Kushana."[1] Since everyone of the twenty monks residing in Ṛishabhadatta's cave was given a *kuśaṇa* for everyone of the four months of the rainy season eighty *kuśaṇas* were needed a year. These were to accrue from the annual interest on the deposit already mentioned. The interest, as seen before, amounted to 90 *kārshāpaṇas*. Bhandarkar, therefore, concludes, "80 *kuśaṇas* were equivalent to 90 *kārshāpaṇas*, or, in other words, the rate of exchange between these two classes of coins was 9 : 8."[2] S.K. Chakraborty[3] also takes *Kuśaṇa* to mean a class of coin ; but, in his opinion, it refers to the gold coins of Kanishka otherwise known as *suvarṇa*. Unfortunately, neither of these views appears to be tenable. *Kuśaṇa* in the present inscription may be *kṛisana* or *kṛiśānna*=minor food (*amukhyāhāra*).[4] Senart[5] shows that several inscriptions at Kanheri[6] commemorate various endowments with double objects : *chivaraka soḷasaka paliko cha māse utukāle*,[7] *chivarika bārasaka giṁhāsu padiko māse*[8] ; *chivarika soḷasaka padiko māse cha utukāle*.[9] The first word in this series corresponds to that of Ṛishabhadatta's epigraph (*chivarika kuśaṇamule cha ete cha kāhāpaṇa prayutā chivarika bārasaka ya sahasre prayutaṁ pāyūnapaḍike śate ato kuśaṇamula*) ; it is highly probable that both correspond in the second as well, and

[1] *IA*, XLVII, p. 76.
[2] *Ibid.*, p. 81.
[3] *Op. cit.*, pp. 98ff.
[4] *Select Inscriptions*, p. 159n. 3.
[5] *EI*, Vol. VIII, p. 83.
[6] *ASWI* , Vol. V, pp. 76ff.
[7] *Ibid.*, Kanheri inscription, No. 15.
[8] *Ibid.*, No. 18.
[9] *Ibid.*, No. 21.

consequently *kuśaṇa* means a monthly stipend, assigned to every monk during a certain period of the year and which, according to Senart, was defrayed for his food.[1]

As coins of gold or silver were not very useful in daily transactions coinage of base metals were to be introduced. Thus coins of lead, potin and copper came into existence. The Andhras, however, had a 'special partiality for lead'[2] and, as Rapson pointed out, the lead coins "have been found exclusively in the Andhradesa, in the Anantapur and Cuddupah districts, in the region of the Coromandel Coast, in the Chitaldrug district and in the Karwar district. A lead and potin coinage are found apparently in association in the Kolhapur district; and it seems probable that, at an early period, a lead currency prevailed in Malwa in districts where, at a later date, coins of potin or copper appear to have been used. Potin coins are found together with others in the districts just mentioned and exclusively in the Chanda districts of the Central Provinces."[3] These coins show considerable variations in size and weight and as such their denominations and weight standards remain doubtful for the present. But it may be safely conjectured that these were copper, lead or potin *kārshāpaṇas* or part thereof. Copper *kākiṇī*, which was the lowest fraction of a *kārshāpaṇa*, has been described as prevalent in the Dakshiṇāpatha by Kshemakīrtti in his *Bṛihatkalpabhāshya* (composed in *c.* A.D. 600 or earlier).[4]

Rapson[5] further says, "We may gather both directly from the statements of the law-books, and more generally from the study of the coins, that in Ancient India silver and copper coinages were often independent of each other and circulated in different districts. A copper currency was not necessarily regarded as merely auxiliary to the silver currency, but copper standard prevailed in others." When, as observed by S.K.

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[1] Rapson, (*op. cit.*, p. lviii) interprets *kuśaṇa* in the sense of *kaṭhina*, *i.e.*, the privilege of wearing extra robes, which was granted to the monks during the rainy season.

[2] Smith, *op. cit.*, p. 208.

[3] Rapson, *op. cit*, pp, clxxxiif.

[4] U.P. Shah 'Numismatic Data in Early Jain Literature', *JNSI*, Vol. XIII, p. 109.

[5] *Op. cit.*, p. clxxix.

Chakraborty,[1] we bear it in mind that coinage in ancient India was 'essentially local in character', we have no reason to be surprised that different metals were used independently in different provinces of the same empire, *e.g.*, of the Andhras, Guptas and others. The word *kārshāpaṇa*, therefore, could mean the standard coin of any particular district whether of gold, silver or copper. The *Sāmantapāsādikā*, while explaining a passage from the *Pātimokkha*, says about a *kārshāpaṇa* as follows, "here *kārshāpaṇa* is either made of gold, or that made of silver, or the ordinary one."[2] In fact, *kārshāpaṇa* was not so-called because it was made of a particular metal, but because it originally conformed to one *karsha* in weight.[3]

In a table of the subdivisions of the *kārshāpaṇa* money, prepared by Bhandarkar[4] from two Jātakas,[5] the *Vinayapiṭaka*,[6] and the *Arthaśāstra*,[7] we find : *kārshāpaṇa*, ½-*kārshapaṇa*, *pāda* or ¼-*kārshāpaṇa*, 1/8-*kārshāpaṇa*, 4-*māshaka*, 3-*māshaka*, 2-*māshaka*, 1-*māshaka* or 1/16-*kārshāpaṇa*, ½-*māshaka*, 1-*kākiṇī* or 1/80-*kārshāpaṇa* and ½-*kākiṇī*. It is unlikely that all the smaller tokens were prevalent at the same place and time. "The most constant factors from amongst these seem to be ½-*kārshāpaṇa*, ¼-*kārshāpaṇa*, 1-*māshaka*, ½-*māshaka*, 1-*kākiṇī* and ½-*kākiṇī*. These together with some of the intermediate sub-divisions appear to have formed the token money of the standard *kārshāpaṇa* of any particular district or any particular period."[8]

As to the weight standard of the different denominations we may cite three tables given in the law-books for gold, silver and copper coins.[9]

Gold

5 *raktikās*, *kṛishṇalas* or *guñjās* = 1 *māsha*
16 *māshas* = 1 *suvarṇa*

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[1] *Op. cit.*, p. 77.

[2] Rhys Davids, *Ancient Coins and Measures of Ceylon*, p. 8, n. 3 ; *Carmichael Lectures*, 1921, p. 82.

[3] *Manu*, VIII. 196 ; *Amara*, II. 9. 88.

[4] *Op. cit.*, p. 87.

[5] I. 340 ; III. 448.

[6] II. 294, 15-16.

[7] II. 12.

[8] *Carmichael Lectures*, 1921, p. 87.

[9] *Ibid.*, p. 212 ; Rapson, *op. cit.*, p. clxxviii.

Silver

2 *raktikās*, *kṛishṇalas* or *guñjās*=1 *māsha*

16 *māshas*=1 *purāṇa* or *dharaṇa* (the silver *kārshāpaṇa*)

Copper

5 *raktikās*, *krishṇalas* or *guñjās*=1 *māsha*

16 *māshas*=1 (copper) *kārshāpaṇa*

The *raktikā*, which is common to these three systems "was originally, as its various names denote, the *rati*, the seed of the *guñjā*-creeper (*arbus precatorius*), still properly used as a weight in various parts of India. The *rati* is brought into relation with the next higher denomination, the *māsha*, originally some variety of 'bean', in different ways in different systems."[1] As it appears from the three tables given above, the gold and copper *māshas* weigh 5 *ratis* while the silver *māsha* is equal to 2 *ratis*. These two varieties of *māsha* may then be regarded as the units, 16 of which respectively constitute the weight of the standard gold coin, the *suvarṇa* or *dīnāra*, the standard silver coin, the *purāṇa* or *dharaṇa* and the standard copper coin, the *paṇa*. According to Cunningham[2] the average weight of the *guñjā*-berry is 1.83 grains. He, therefore, fixed the full weight of the standard silver coin, the *purāṇa* or silver *kārshāpaṇa* of 32 *ratis*, at 58.56 grains, and that of the standard copper coin, the *paṇa* or copper *kārshāpaṇa*, of 80 *ratis* at 146.4 grains. But the coins that have survived do not conform to these weight-standards. Rapson[3] has shown that, of the four copper coins identified by Cunningham with *kārshāpaṇa*, two are so heavy that they actually represent denominations of respectively 1¾ and 1½ *paṇas*. Such irregular denominations can hardly exist in any currency intended for practical purposes. When examined, the silver punch-marked coins also do not strictly follow the 32 *rati* or 58.56 grain weight standard. As a matter of fact, the diversity in the weight of the coins of the same denomination appears to be inevitable when we remember that 'the basic *māshaka* weight was not the same in different localities and periods even in regard to the same metal.'[4] While the *māshas* of two and of five *ratis* prevailed in some districts during and after the period when the early law-books were composed there can be little doubt that *māshas* of other values also were used as units in many parts of India. Rapson[1] quotes Colebrooke to show that there were at least four different *māshas* 'one containing five *raktikās* ; another, four (according to Nārada) ; a third, sixteen (according to Bṛihaspati) ; and a fourth (the *māshaka* of silver) containing two *raktikās*; not to notice the *māshaka* used by medical tribe and consisting of ten or according to some authorities, of twelve *raktikās*, which may be the same with the jewellers' *māsha* of six double *rattis* . . . " The *Śabdakalpadruma*,[2] s.v. *māshaka*, refers to some authorities speaking of *māshakas* of five, six, seven and eight *ratis*. Wilson in his *Glossary* notes that *māsha* is variously reckoned at 5, 8 or 10 *ratis*.[3] According to Charaka,[4] in Magadha, *māsha* denoted a unit of 6 *ratis*. While there was no uniformity in the basic *māsha* weight, the standard 16 *māsha* making a *kārshāpaṇa* was also not followed everywhere. The evidence of Buddhaghosha seems to suggest the currency of *kāsrhāpaṇas* of 20 *māshas*, called *nīlakahāpaṇa* and kārshāpaṇas of 16 *māshas*, called *rudradāmaka*, side by side, *Kārshāpaṇas* of 20 *māshas* were known to lawyers.[5] The Mitāksharā on *Yāj*., I. 365 quotes a verse[6] according to which a *paṇa* is equivalent to 20 *māshas*. Bālambhaṭṭa[7] following Vishṇugupta informs us that 20 *majjāṭikās* are equivalent to one *kalañja* or *dharaṇa*. Bālambhaṭṭa further says that a *majjāṭikā* (Skt. *mañjishṭhā* ; Pali *mañjeṭṭhī* ; Dravidian and Ceylonese *mañjāḍi*) is equal to two *guñjās* (*ratis*). The *Agnipurāṇa*[8] refers to a *paṇa* of 24 *māshas*. Coins weighing less than the standard 16 *māshas* were also known. Thus Gopāla Bhaṭṭa[9] on the authority of the ancient astronomical works says that a *dharaṇa* is equal to 24 *ratis* (*i.e.*, 12 *māshas*). In the following table, the *Bṛihatkalpabhāshya*[1] while giving the exchange values of the standard silver coins of different places amply demonstrates the divergence in the weight standards from place to place :

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[1] Rapson, *op, cit.*, pp. clxxviii f.

[2] *Coins of Ancient India*, pp. 44ff.

[3] *Op. cit.*, p. clxxxi.

[4] *JNSI,* Vol. XIII, p. 185.

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[1] *Op. cit.*, p. clxxxii.

[2] *JNSI*, Vol. XIII, p. 185.

[3] *Loc. cit.*

[4] Rapson, *loc. cit.*

[5] *JNSI*, Vol, II, p. 3 ; Bhandarkar, *op. cit.* p. 188 ; Nār. XXI, 58.

[6] Haradatta and Maskarin on *Gaut.*, XII. 19.

[7] C.D. Chatterjee, *op. cit.*, p. 448.

[8] CXXVII. I.

[9] *Transactions of the ASB*, 1801, p. 95 ; *JRAS*, 1937, p. 302.

2 *Sābharakas* of Dvīpa = 1 silver coin of Uttarāpatha
2 Uttarāpatha coins = 1 silver coin of Pāṭaliputra
2 Silver coins of Dakshiṇāpatha = 1 *Nelaka* of Kāñchīpurī
2 *Nelakas* of Kāñchīpurī = 1 silver coin of Kusumapura (*i.e.*, Pāṭaliputra).

As for gold coins, the information given in the law-books and similar literary works is likewise of little practical value. No gold coins based upon the standard weight of 80 *ratis* or 146.4 grains have so far been discovered prior to the time of Skandagupta. It has, therefore, been rightly suggested that the *suvarṇa* mentioned in a Nasik inscription of the time of Nahapāna refers to the contemporary gold currency of the Kushāṇas, the standard weight of which was 124 grains. The *dīnāras* and *dīnāra-māshakas* of the Nagarjunakonda inscriptions, being the original Roman *dinarius* or imitations thereof, could not be of a higher weight. Gold coins of lesser weight were also known. Several of the available gold coins of the Deccan are smooth and minute spherules weighing about 52 grains. 'These spherules were known as *gullige* or little balls in old Canarese and several of them were found in the Sunda Pargana of Dharwar district in 1828.'[2] In the Hyderabad Museum more than twenty-five such specimens are preserved.[3] Besides these examples, gold coins of about 60 grain standard have been found at Banavasi[4] while some tiny gold coins came to light during the excavations at Maski.[5] The weight of some uninscribed gold coins, discovered in the Southern Maratha country and the Bellary District and attributed to the Chālukyas of Bādāmi, varies from 55 to 58 grains.[6]

It is usually supposed that the silver coins called *kārshāpaṇas* in the inscriptions of the Western Kshatrapas and Sātavāhanas were 'imitated, as regards size, weight and fabric, from the *hemi-drachms* of the Graeco-Indian kings'.[1] These coins when weighed never go up to 58 grains, but throughout the period from the time of Nahapāna (*c.* 120 A.D.) to that of the Traikūṭaka Vyāghrasena (*c.* 480 A.D.) show a variation between 34 and 36 grains.

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[1] *JNSI*, Vol. XIII, p. 109.
[2] *EHD*, p. 799 ; also Elliot, *Coins of South India*, p. 53, Plate i, 2.
[3] *EHD*, p. 799 ; *ARHAD*, 1925, p. 17.
[4] *EHD*, p. 800 ; Elliot, *op. cit.*, Plate ii, 67.
[5] *EHD*, p. 800 ; *ARHAD*, 1939, p. 18.
[6] *EHD*, p. 800 ; Elliot, *op. cit* , Plate i, 19; 22.

Thus, starting on the basis that a standard *suvarṇa* or *dīnāra* weighs 124 grains and a standard silver *kārshāpaṇa* 36 grains we can proceed to determine the rate of exchange between gold and silver in the light of Ṛishabhadatta's inscription. There it is said that 70,000 (silver) *kārshāpaṇas* were equal to 2,000 *suvarṇas*. This makes a *suvarṇa* equal to 35 *kārshāpaṇas*. Hence 124 grains of gold $=36\times35$ grains of silver $\therefore$ 1 grain of gold $=10$ grains of silver.[2] According to Vishṇugupta,[3] quoted in Hemādri's *Vratakhaṇḍa* and Raghunandana's *Prāyaśchittatattva*,[4] a *rūpaka* is 1/70 of a *suvarṇa* and a *dīnāra* is equal to 28 *rūpakas*. On the other hand, the indication given in the Baigram inscription suggests that one Gupta *dīnāra* was equal to 16 Gupta *rūpakas*.[5] Gupta coins from the time of Chandragupta I to that of Kumāragupta I, during whose reign the Baigram inscription was engraved, generally followed the Kushāṇa standard of 124 grains and weigh between 120 and 127 grains.[6] These coins usually contain an alloy of about 10% only.[7] The silver issues likewise are imitations of the Kshatrapa silver currency, their weight varying between 27 and 34 grains.[8] The exchange ratio of gold and silver may thus be established on the basis of epigraphic evidence approximately at 1 : 4.

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[1] Rapson, *op. cit.*, p. cviii.

[2] Bhandarkar (*CL*, p. 192) on the authority of the law-books, takes the *kārshāpaṇa* and *suvarṇa* to weigh respectively 32 *ratis* and 80 *ratis* and fixes the exchange ratio of silver and gold at $35\times32:80$, *i.e.*, 14 : 1. It is unnecessary to take this reckoning seriously so far as the gold and silver coins, referred to in the Nasik inscription, are concerned.

[3] Kane, *History of Dharmaśāstra*, Vol. III, p. 122n.

[4] S.K. Chakraborty, *op. cit.*, p. 87.

[5] *Select Ins.*, p. 343 and note.

[6] A.S. Altekar, *The Coinage of the Gupta Empire*, p. 295.

[7] *Ibid.*, p. 241.

[8] *Ibid.*, p. 301.

As to the exchange ratio of gold and copper or silver and copper, nothing can be said with any amount of certainty so long as all attempts at reconciling the simplicity of the theoretical system given in the law-books with the great diversity in weights found in the copper coins themselves remain problematical.

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Errata

P. 11, line 11—*Read*—Pennar.
P. 15, line 6—*Read*—Pennar.
P. 16, foot-note 1, line 9—*Read*—*trisamudra-madhyavarti-bhuvana maṇḍalādhīśvara.*
P. 36, line 5—*Read*—Vāsishṭhiputra.
P. 45, line 23—*Read*—Nagarjunakonda.
P. 57, foot-note 1, line 3—*Read*—*prajānāmeva.*
P. 63, line 5—*Read*—Viśvarūpasena.
P. 74, foot-note 10, line 2—*Read*—to a king.
P. 78, line 17—*Read*—'ferrying of rivers'.
P. 87, line 2—*Read*—*daśāparādha.*
P. 105, foot-note 5, line 1—*Read*—*pūrvāpara.*
P. 105, foot-note 6, line 1—*Read*—Siddhantabagis.
P. 105, foot-note 4 line 2—*Read*—Pañchavaṭī.
P. 113, line 15—*Read*—Sugrīva's madhuvana.
P. 119, foot-note 2, line 8—*Read*—*kalañju.*
P. 121, foot-note 2, line 4—*Read*—*vishaya.*
P. 122, line 27—*Read*—*Rasopadra.*
P. 126, line 21—*Read*—*araghaṭṭa.*
P. 129, line 30—*Read*—*gopura.*
P. 134, line 3—*Read*—*antaḥpuras.*
P. 137, line 16—*Read*—Bezwada.
P. 137, foot-note 10—*Read*—*Harivaṁśa.*
P. 139, line 10—*Read*—Nīlakaṇṭha.
P. 141, line 24—*Read*—Purāṇas
P. 142, foot-note 9, line 1—*Read*—*Khuddu.*
P. 145, line 11—*Read*—Tosali.
P. 146, line 24—*Read*— Peddavegi.
P. 153, foot-note 3 line 5—*Read*—*Goshṭhikās.*
P. 154, line 14—*Read*—Vāsishṭhīputra.
P. 160, line 29—*Read*—*Kāśmaka.*

P. 160, foot-note 2, line 2—*Read*—stones.
P. 163, line 11—*Read*—Guntur.
P. 163, foot-note 3—*Read*—*Periplus*.
P. 164, line 24—*Read*—Oroudiam.
P. 165, foot-note 7, line 3—*Read*—*Erythraean*.
P. 169, line 27—*Read*—Bassein.
P. 174, line 22—*Read*—Sūrpāraka.
P. 194, line 21—*Read*—Somavaṁśī.
P. 197, foot-note 6, line 9—*Read*—*āpanājīvika*.
P. 218, line 17—*Read*—Vana-savyaya.
P. 220, line 1—*Read*—N.W.-S.W.
P. 232, line 21—*Read*—Coromandel.
P. 233, line 11—*Read*—*Mahājanaka*.
P. 239, line 22—*Read*—Gaellus.
P. 241, line 11—*Read*—Sicilians.
P. 243, foot-note 1, line 2—*Read*—Barnett.
P. 251, line 5—*Read*—Pahlava.
P. 255, foot-note 1, line 1—*Read*—Priaulx.
P. 263, line 11—*Read*—*prabhava*.
P. 298, line 20—*Read*—Barrett

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